THE Lumberman

JANUARY 1956

Clinic Demonstrates Lumber Handling

Foresters Discuss Progress In Meet

In This Issue: Another Roundup Feature

Small Mills Are Big Business

Read "Everyone Likes the Small Mill".... beginning on page 65

A MILLER FREEMAN PUBLICATION

50 cents

On Head Rigs or Resaws ...

Tough SIMONDS WIDE BAND SAWS Cut Smoother, Faster!

Simonds takes no chances . . . makes its own nickel alloy band saw steel . . . steel that is famous for toughness and edge-holding ability. "Micro-Check" grinding, originated and perfected by Simonds, insures uniform saw thickness and tension . . . eliminates saw flutter . . . saves kerf . . . stands up to heavier feeds and speeds . . . makes it easier to keep saws running and cutting in "like new" condition. Back of every saw is Simonds "know-how" acquired through years of experience in manufacture and in working with sawyers, filers and mill operators in all parts of the country. Make *your* next saw a SIMONDS . . . you'll cut better lumber and make more profit, too!

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made from Simonds own electric furnace steel.

high nickel alloy content insures greater toughness and edge-holding ability.

accuracy of manufacture makes for easy maintenance, longer life and durability.

"Micro-Check" Grinding — prevents a thin tooth at the weld — insures uniform thickness — eliminates saw flutter — saves kerf.

all operations — toothing, tempering, grinding, tensioning, swaging and sharpening — performed by specialists.

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SIMONDS SAW AND STEEL CO.
FITCHBURG, MASS.

"WE LIKE THE WAY

Peterbilt

CABS STAY TOGETHER"

The S. & F. Lumber Company of Arcata, California, is engaged in logging fir logs on the Hunter Ranch on Mad River, and hauling their own logs 36 miles to the McIntosh Mill in Blue Lake. They are using 4 Peterbilt Model 350 Loggers on this haul.

In appraising the performance of their Peterbilts, Jesse Forrester, a partner in the firm, says: "Our PETERBILTS get over the road the smoothest, and we have had very good luck with them on steep grades. Our haul is pretty rugged, and we especially like the way Peterbilt cabs stay together, in fact, we've had no trouble with our PETERBILTS at all."

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NOW—push-button sealing with Signode's Air Power Sealer!

Two seconds—that's all the time the logger in the picture needs to apply a heavy-duty seal to 2" x .050" strapping.

He is using a Signode heavy-duty air power sealer—which operates with an easy push of the button under his thumb.

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- Simply designed, it operates without mechanical adjustments.
- It seals strapping in either vertical or horizontal position.
- It is strongly made for trouble-free operation.

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THE Lumberman

The Production Journal of the Forest Products Industries Since 1889

JANUARY, 1956 VOLUME 83, NUMBER 1

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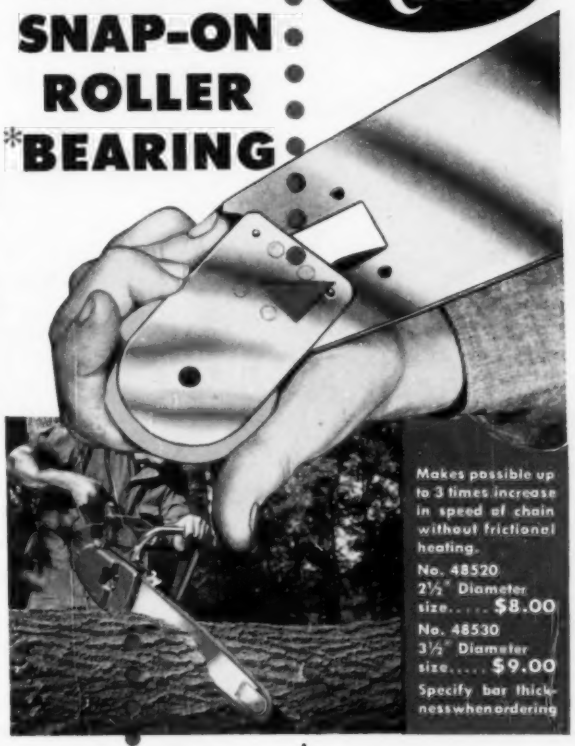
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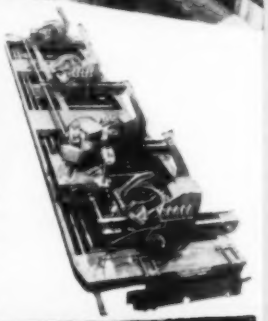

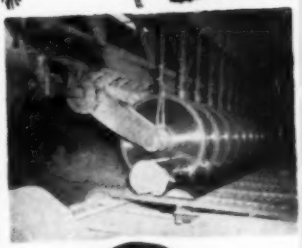

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EVERETT, WASHINGTON

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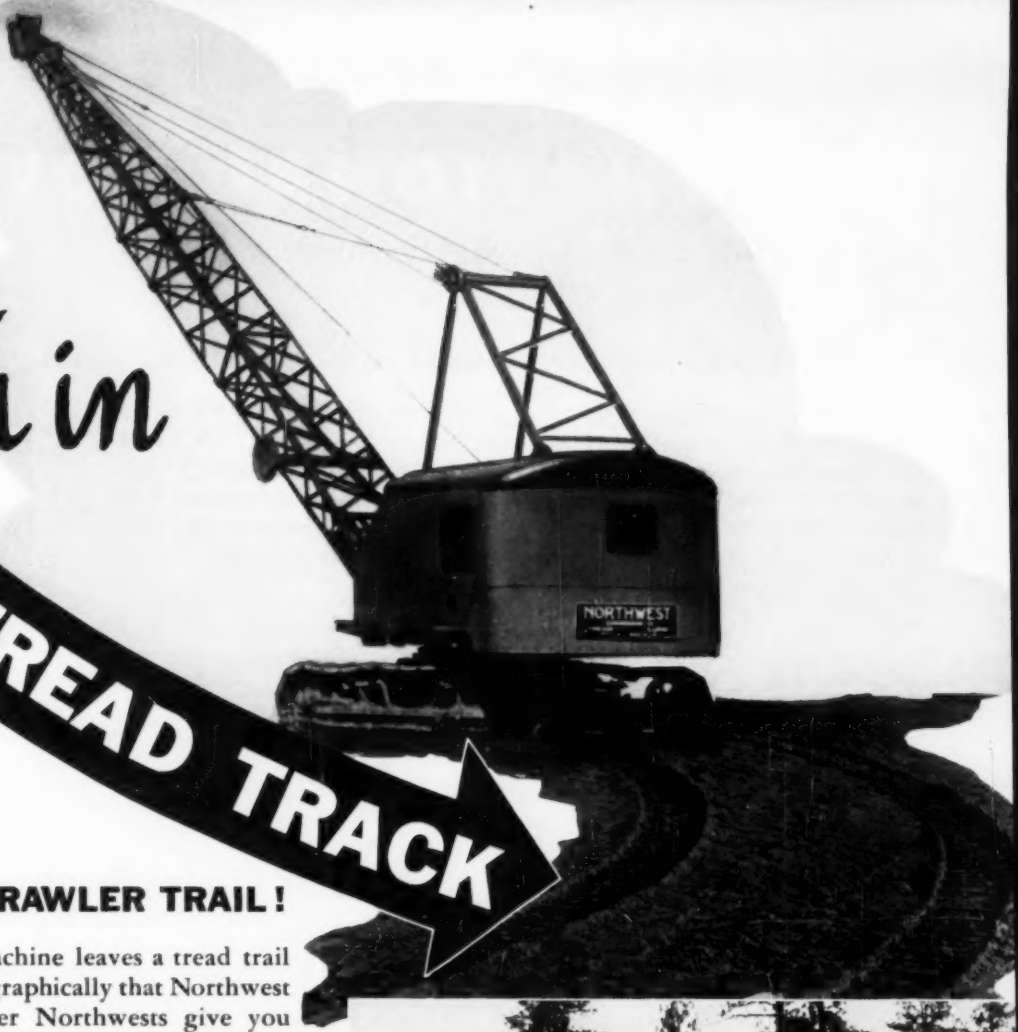
There's money for you in that TREAD TRACK



LOOK AT THAT CRAWLER TRAIL!

No other standard machine leaves a tread trail like that. It illustrates graphically that Northwest Crawlers on the larger Northwests give you positive traction *while turning* as well as when going straight ahead. This means money in the woods on any show. It means easier travel in the rough, slash cluttered areas. It means time saved in maneuvering and it means that your log loader comes back from places that give other equipment trouble.

The Northwest is an "all weather" machine. Positive traction, fully controlled from the cab with the cab in any position keeps your rig up on top and out of trouble. This Northwest feature alone, not considering all the other Northwest advantages, makes a Northwest worth having.

Ask for complete details on Northwest features for logging.

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of Warm Springs, Oregon
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Berger-Rees Tongs

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A PICTURE REPORT OF

INTERNATIONAL POWER

Boosting job production everywhere

70 TD-24's for Weyerhaeuser— The TD-24 shown below skidding logs near Camp MacDonald, Washington, is one of 70 being used by Weyerhaeuser Timber Co on their operations in Washington and Oregon. Major advantages of the "24's", report Weyerhaeuser's men, are their ability to turn with power on both tracks, their rugged construction, and 7.8 mph speed. Weyerhaeuser's satisfaction with TD-24's is proven by their high number of repeat purchases.

Fast, safe unloading—To handle fir, cedar, and pine logs around his mill near Fresno, California, Paul Brooks uses this International Drott TD-14A. Rig unloads 20,000 to 25,000 board feet per day (1,500,000 bf per year) . . . stacks both logs and timber . . . also transports logs from truck site to cutting rack. Skidding in woods is handled by two other TD-14's.

1234 Sixth Avenue, South

255 Tenth Street

3707 Santa Fe Avenue

Pioneers 100 miles of road—"Our TD-24 stands up to the toughest rock work we can give it," says W. J. Johnson, Supt for Schafer Bros Logging Co, Aberdeen, Washington. "It has pioneered logging roads straight up mountain-sides. It has carved out rock and towed 75-ton yarders. Now, it's helping build 100 miles of road for logging out of a government tract in the Olympic National Forest. We think it's the best equipment to get a job done at the lowest possible cost."

Towing yellow pine lumber from mill to drying yard is just one of many jobs Arkansas & Louisiana Lumber Co, Emerson, Arkansas, handles with their International 300 wheel tractor. Unit stacks 30,000 board feet per day . . . 750,000 bf per year. Individual loads average 1500 bf, weigh 7,000 lbs. Rig also uses dozer blade to clean up bark and sawdust . . . is available to skid logs from woods.

"Ideal for dozing rock," says Paul Weaver, Supt for Joe Wenke Quarries of this veteran TD-14A. "We use it continuously for shovel and quarry-floor cleanup. Performance has been excellent. Downtime is way down, due partly to rugged construction, partly to prompt parts delivery service from our International distributor." Quarry, located at Toledo, Iowa, produces 200 tons of 1-inch road stone per hour.

2500 cu yds every 10 hrs is the record of W. L. Mahan's two Model "55" Payscrapers on 1½-mile road job. Units, push-loaded by TD-18, heap 10 pay yds of rocky material per load. Machines' high horsepower-to-weight ratio makes them ideal for building truck haul roads through mountainous logging country.

International

makes every load a pay load

A machine size for every job . . . see your nearest INTERNATIONAL DISTRIBUTOR for details.

INTERNATIONAL HARVESTER

Industrial Power

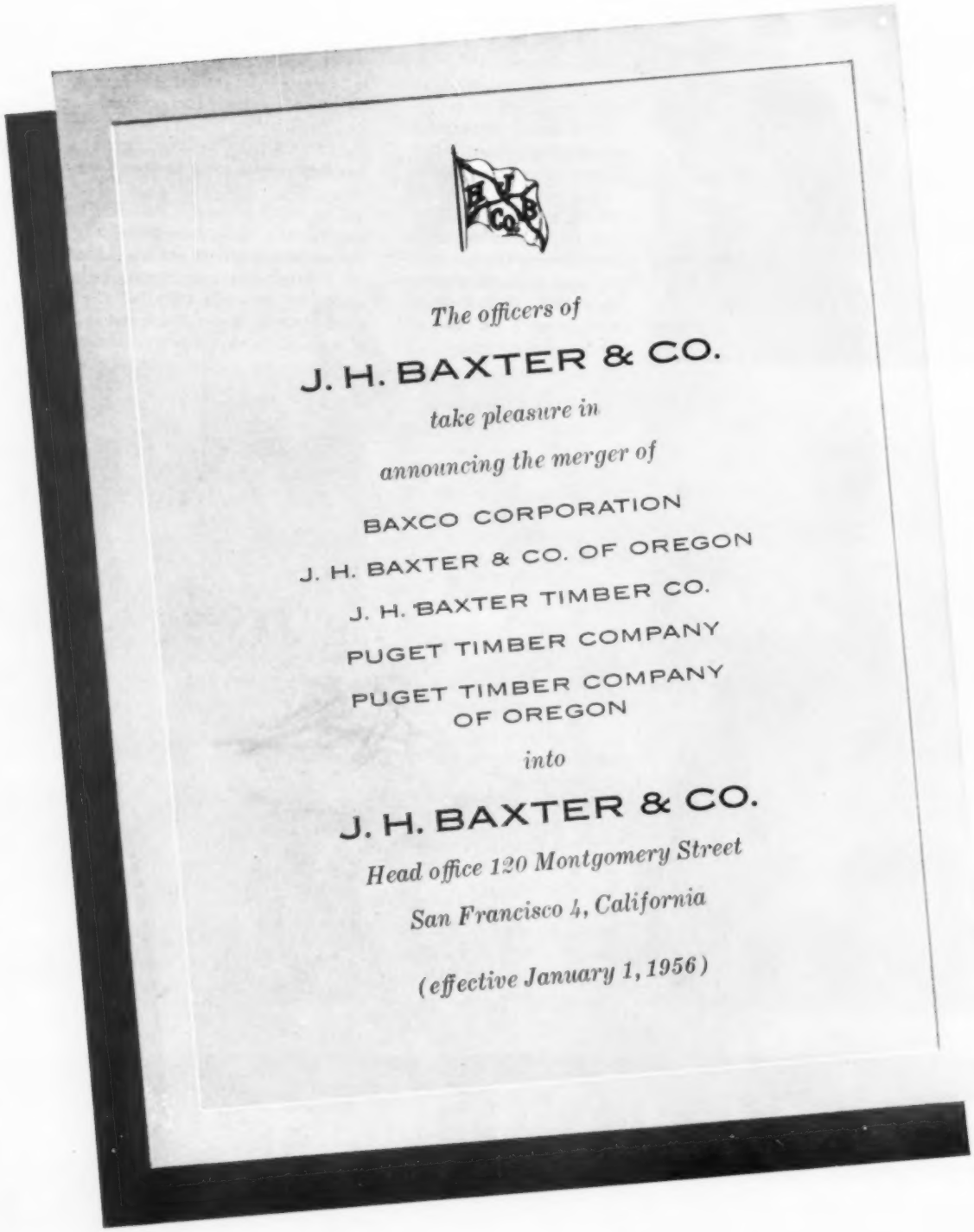
PAYSCRAPERS
13 yds. and 18½ yds.

CRAWLER TRACTORS
8 Models . . 48 to 250 hp

DIESEL, GAS ENGINES
18 Models, 16 to 200 hp

WHEEL TRACTORS
6 Models . . . 9 to 59 dbp

ALSO: International Draft Loaders . . . International Scrapers, Bottom-Dump Wagons . . . and International Superior Pipe-Boom Tractors.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TRU-LAY VHS
15% Stronger

At Your Distributor NOW

For Logging Chokers, Arch Lines

New TRU-LAY VHS Wire Rope was specially developed for use as logging Chokers and Arch Lines. It is 15% stronger than the top standard grade of Improved Plow Steel . . . which has been the best grade procurable up to now.

Easier Handling

This greater strength of new TRU-LAY VHS means you may be able to use smaller diameter lines for your choker and arch lines. And the smaller the line, the easier the handling . . . Choker setters like that.

Tougher . . . For Longer Life

New TRU-LAY VHS is also tougher . . . more wear resistant. Add the extra strength and toughness of TRU-LAY VHS to the advantages of Preformed construction and you get the ideal rope for the toughest applications of the logging industry.

And when you use ACCO'S DUALOC endings on TRU-LAY VHS rope, you have a choker rope that sets new standards of performance.

Cuts Down Time—Costs Less To Use

The extra toughness and wear resistance of New TRU-LAY VHS mean longer rope life . . . cut "down time" of equipment for wire rope replacement. This saves you money . . . as proved by carefully kept service records of field tests of TRU-LAY VHS as logging chokers and arch lines.

Your American Cable Distributor has TRU-LAY VHS *in stock* now. *See him or write to the nearest American Chain & Cable Company office.*

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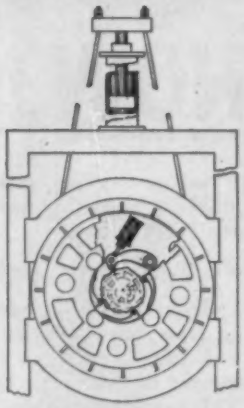
See the New NICHOLSON ROTOBARKER

Installations at Pope & Talbot, Inc., St. Helens, Oregon

Nicholson Rotobarker installation at the U. S. Plywood Corporation (SHASTA DIVISION), Anderson, California

PATENT PENDING



Cut-away section showing one of the multiple Air Cylinders that engage or dis-engage the tools that scrape and drag the bark off the log.

CHECK THESE OUTSTANDING FEATURES

1. Lineal log feed rates of from 30 to 120 ft. per minute.
2. Log diameters 6" to 60".
3. Very low horsepower requirements.
4. Proper log cleaning for all pulping processes.
5. Dry, burnable bark by-products.
6. Heavy duty, rugged construction.
7. Minimum wood loss or log damage.
8. May be mounted directly in log haul, with debarking ring removable from log path.
9. Bark removal by air powered scraper tools which rotate around the log. The log does not revolve.
10. Maintenance by your millwrights, only one man to operate debarker.
11. Eliminates any water pollution problem.
12. Six different sizes and models to suit individual mill requirements.

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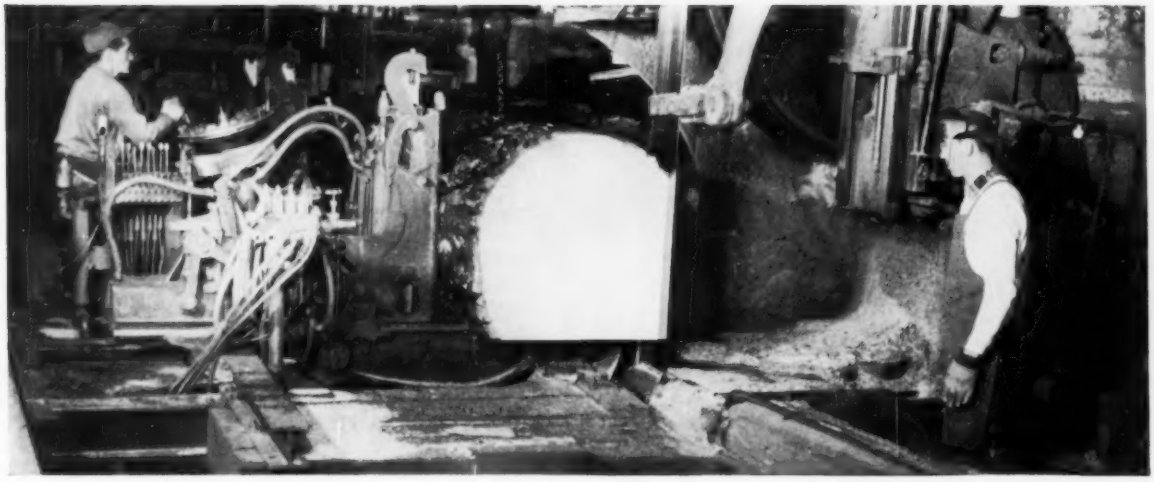
Standard Engineer's Field Report

Another new product development
CALOL INDUSTRIAL GREASE

New grease simplifies bearing lubrication, cuts bearing repacking time 75%



CALOL INDUSTRIAL GREASE, an entirely new grease made with a completely different synthetic thickener, has proved its outstanding qualities in all types of bearings and other greased points under toughest conditions in sawmills, on the show and in a wide variety of operations.

Willow Ranch Lumber Co., (see photo) Willow Ranch, Calif., always had to repack bearings weekly because of water entering lower band mill and resaw bearings. Packed with Calol Industrial Grease, bearings ran a full month without trouble. When inspected, both grease and bearings were in perfect condition and continued to operate without additional grease.

CALOL

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FREE FOLDER gives you complete information on New Calol Industrial Grease. Write or ask for it today.

FOR EXPERT HELP on lubrication or fuel problems, write or call your Standard Fuel and Lubricant Engineer or Representative, or write Standard Oil Company of California, 225 Bush St., San Francisco.

NEW CALOL INDUSTRIAL GREASE is strong in all lubricating qualities, eliminates need for most specialized greases in your plant.

NEW CALOL INDUSTRIAL GREASE speeds greasing time, prevents errors, cuts down space and stock control trouble, won't change in storage.

Gives these outstanding advantages:

- Mixes with any grease...forms safe mixtures, eliminates bearing removal and cleaning when you change brands.
- Exceptionally high melting point of 500° F.+ ...thorough lubrication in extreme high-temperature operations.
- Extreme work stability...only slight softening after 1000-hour test that turns most greases to fluid in 4 to 20 hours.
- Excellent wear-prevention qualities . . . proved in service with steel-on-steel, steel-on-bronze, steel-on-babbitt bearings.
- Outstanding rust protection...in service or lay-up even in hot, moist conditions.
- Unusual water resistance...does not emulsify after more than a week in boiling water; conventional greases disintegrate after 4 min.
- Non-corrosive...will not corrode copper or any ferrous or non-ferrous metals.
- Pumpable over wide temp. range . . . Medium grade pumps through air dispensers at 3°F.

STANDARD OIL COMPANY OF CALIFORNIA

The LUMBERMAN'S LATE FOREST INDUSTRIES NEWS

These Are the Names in the News—

• Dr. David R. M. Scott has been named assistant professor of Silviculture, University of Washington College of Forestry.

• Frank W. McPherson, who has been an executive of the U. S. Plywood Corps., Mapleton, Ore., operations, has been made general manager of the company's new operation at Gold Beach, Oregon.

• As E. W. Daniels steps down as chairman of the Douglas Fir Plywood Assoc.'s management committee, he looks forward to enjoyable times aboard 26-ft. Chris-Craft, picture of which is held by Arnold Koutonen, St. Paul & Tacoma Lbr. Co., his successor as chairman. Veteran of several decades with Harbor Plywood Corp., "Dan" headed the committee for 17 years. Koutonen has been in the industry many years and has served on the committee.

• Ernest G. Swigert, president of Hyster Co., has been elected first vice president of the National Association of Manufacturers. He is next in line for election to the presidency one year hence. In a recent speech Swigert advocated a federal income tax limit of 35 percent of a person's income.

• Harold Olson, has been appointed to the promotion staff of the Western Pine Assoc. in Portland, Ore. Olson was a district manager for the American Forest Products, Inc., for the past 10 years in Portland.

• New Southwest division sales manager for Forest Fiber Products Co., is Henry B. Jacobsen, former sales engineer for the Forest Grove, Oregon hardboard firm. With headquarters in Los Angeles, Jacobsen will head sales in California, Nevada and Arizona. Jacobsen's appointment, said Harold A. Miller, President, is one of a series of staff changes designed to meet new market conditions and the growing demand for hardboard products.

• Oil drillers are at work on Weyerhaeuer Timber Company's St. Helens Tree Farm, at Deep River Basin in Southwest Washington. This exploratory well is now down more than 7000 feet.

• Recently appointed merchandising manager for Forest Fiber Products Co. is Hugh M. Lineweaver. Mr. Lineweaver was formerly sales promotion director for this well known hardboard manufacturing plant located at Forest Grove, Oregon. As merchandising manager, Mr. Lineweaver's duties will include supervision of publicity and advertising, market research and public relations.

• Robert Faegre has been elected president and chief executive officer of Minnesota and Ontario Paper Co., Minneapolis. J. B. Faegre Sr., president since 1950 and with the company since 1930, has been made chairman of the Board. The company recently announced a two for one split of its common stock.

• Highest professional honors have gone to nine prominent foresters, recently elected fellows in the Society of American Foresters. They are Dean Gordon D. Marckworth, College of Forestry, U. of Wash.; Reed Bailey, Ogden, Utah, div. FS experiment station; Dwight B. DeMerritt, Dead R. Co. & Eastern Corp., Bangor, Me.; Samuel B. Detweiler, Soil Conservation Service (ret.); Stanley Fontanna, dean of natural resources, U. of Mich.; J. A. Hall, dir., Madison Forest Products Lab.; Frank Kaufert, dean of forestry, Minnesota; and F. Paul Keen, FS div. of forest insect research, Berkeley, Calif.

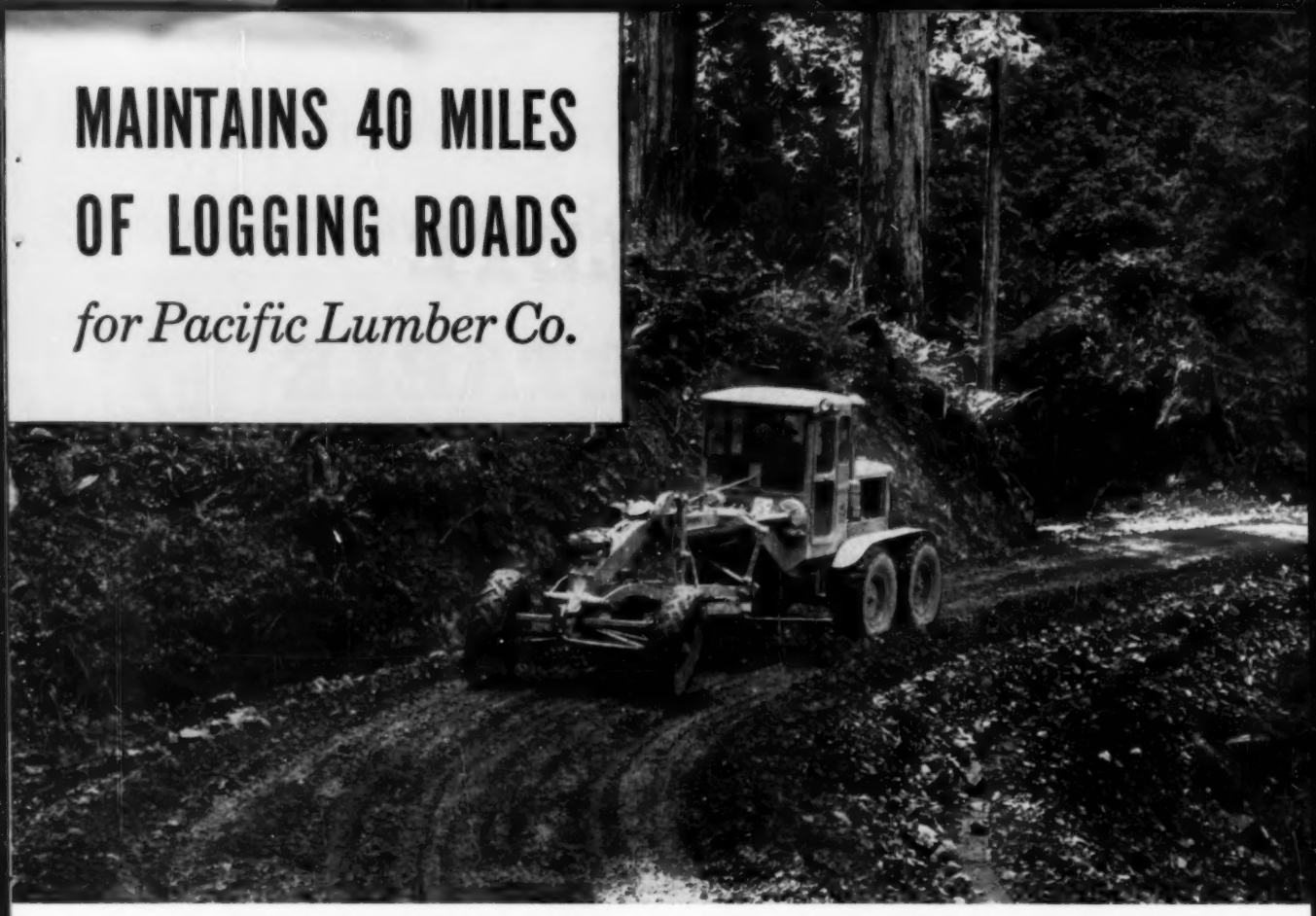
• Georges L. Houle of Newburyport, Mass., has been appointed Chief of Staff of the Atlas Plywood Corporation, Boston, Mass. President Robert A. Muller in announcing this appointment said, "The staff department is a key segment in Atlas Plywood's plan of reorganization and expansion."

• Herbert H. Gottschall has been named acting comptroller of Boise-Payette Lumber Co., Boise, Ida.

• At the annual meeting of Columbia Basin Sawmills in December the following officers were elected for 1956: Pres., Gordon C. Wilkinson, Lbr. Mfrs., Inc.; Vice Pres., Roy V. Leonard, Shepard & Morse Lbr. Co.; Sec-Treas., Lester J. Harding, Columbia-Hudson Lbr. Co. Columbia Basin Loggers elected the following officers: Pres. Ed F. Baker, Lewis Rvr. Logging Co.; Vice-Pres., James L. Lakin, Jones Log Co.; Treas., Charles C. Nichols, Crown Zellerbach; Sec., Hugo H. Wiecks, DYW Co.; Ed H. Crosby, Portland, assist. secretary-treasurer for both groups.

MAINTAINS 40 MILES OF LOGGING ROADS

for Pacific Lumber Co.



On the Yeager Creek show of the Pacific Lumber Co., Calif., this No. 12 spreads rock and gravel on the main logging road. The road was built by four D8s.

"The leaning wheels and hydraulic steering booster combine to give us more work and better roads and ditches," says Woods Superintendent Walter Bassett

This CAT* No. 12 Motor Grader maintains all logging roads for the Pacific Lumber Co., Scotia, California. There are some 40 winding miles of them with grades up to 17%. When this picture was taken, the No. 12 had 4862 hours on its hour meter—without down time. It's on the job 8 hours a day, 5 days a week, all year around. Summing up its performance, Woods Superintendent Bassett says: "The No. 12 works well under all conditions. And our operator has less fatigue."

Just check over all the points mentioned about the No. 12—more work . . . better roads . . . good work under all conditions . . . easy on the operator. They add up to a money-making fact: it pays to use a Caterpillar Diesel Motor Grader on any show. At minimum cost and with minimum down time, these rugged yellow rigs keep roads in condition for faster hauls and lower hauling costs. They're also mighty handy for snow removal and other logging chores.

Exclusive New Oil Clutch for the No. 12!

Now even greater economy and efficiency are built into the No. 12. Its new oil clutch can give you 1500 hours without clutch adjustment. What's more, clutch action stays smooth and "like new." This is a matter of record—Caterpillar's exclusive oil clutch has proved itself long-lived on the toughest kind of jobs.

Your Caterpillar Dealer backs you up with prompt service, whenever and wherever it's needed. Ask him for complete facts about the No. 12. He'll be glad to demonstrate!

Caterpillar Tractor Co., San Francisco, Cal.; Peoria, Ill., U.S.A.

CATERPILLAR*

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COMPLETE SEMI-PORTABLE BAND SAWMILLS

Specifically designed for cutting small stands of timber
Minimum capital investment and erection cost
Permanent mill accuracy and production
In operation 7-10 days
Easily transported
Easily handled

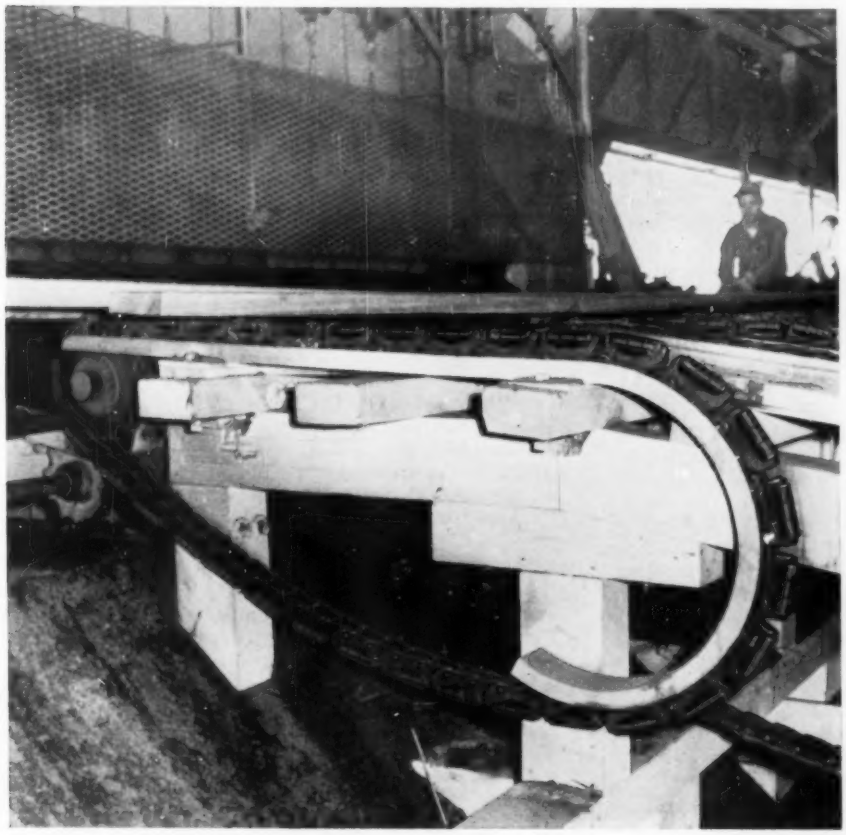
DESIGNERS • BUILDERS • SUPPLIERS
High Grade Sawmill Machinery and Equipment

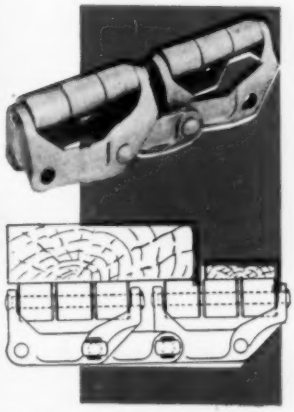
KLAMATH MACHINE & LOCOMOTIVE WORKS INC.
P. O. BOX 208 • KLAMATH FALLS, OREGON, U. S. A.
Look for the Indian Head on all KLAMATH MACHINE *products*

720 North State St., Ukiah, California

Export Division: FRAZAR & HANSEN, Ltd., 301 Clay Street, San Francisco 11, California, U. S. A.

Boards slide easily, one-at-a-time, when you sort on Link-Belt ROLLER-TOP chain





Link-Belt roller-top chain offers big advantages to sawmill operators. First, free-turning is assured by accurately bored, concentric steel rollers and fitted pins. And heavy link construction, plus broad bottom wearing surfaces, adds strength for longer life.

Trimmer feed table at Northern California sawmill uses Link-Belt triple-roller roller-top chain at each end to speed handling and sorting.

NARROW boards or wide planks — both roll off easily . . . one at a time . . . when you use Link-Belt roller-top chain on your sorting tables and similar applications. Triple rollers prevent one board from dragging another. And smooth, free rolling minimizes manual effort . . . reduces fatigue.

This is just another example of how the one chain best suited for a specific application can be selected from the complete Link-Belt line. No other source can equal the broad range of roller and silent chain . . . of cast, combination, forged and fabricated types.

For more information on triple-roller roller-top chain, send for Folder No. 2429. And for information on the complete line, contact your local Link-Belt office or authorized stock-carrying distributor.

LINK-BELT

CHAINS AND SPROCKETS

LINK-BELT COMPANY: Plants, Sales Offices and Factory Branch Stores at San Francisco 24, Los Angeles 33, Seattle 4. Sales Offices and Factory Branch Stores at Portland 10, Spokane 10, Oakland 7, Salt Lake City 1. Stock Carrying Distributors in Principal Areas. 53.054

Late Forest Industries News

• Joe M. Lebo has succeeded Carl Jacoby as logging superintendent of the C. D. Johnson Lumber Co., Toledo, Ore. He has been Mr. Jacoby's assistant for several years. Mr. Jacoby has retired after having been with the Johnson company since 1929. Lebo is a graduate of OSC School of Forestry.

• The two Brown brothers, J. M. (Jim), Jr., and L. V. (Larry), co-owners of Pack River Tree Farm Products, Spokane, Wash., have recently been named to various civic and industry posts. J. M. elected a vice pres. for Idaho of Western Forestry & Conservation Assn., is now serving on the board of directors of Idaho chamber of commerce and on the Idaho state cooperative board of forestry. He also serves as vice chairman of the NLMA forest management committee and on the advisory board of U. of Idaho college of business administration. L. V. is one of ten men named to Gonzaga Univ. board of regents.

• Robert P. Thompson, president of the Thompson Mahogany Co., Philadelphia, Pa., has been re-elected president of the Mahogany Association, Inc.

• Bay City Lumber Co., Aberdeen, Wash., one of Grays Harbor's pioneer sawmills is quitting. The stockholders decided that in view of the character of the mill and market conditions, they could not pay the high prices now being bid for public stumpage. The mill has operated most of the time since 1912.

• Robert L. Roach has succeeded the late A. R. Tipton as president and general manager of Roach & Musser Company, Muscatine, Iowa, pioneer manufacturers of stock woodwork products.

• New president of Associated Forest Industries of Oregon, Salem, Ore., is A. J. Glassow, of Brooks-Scanlon Lbr. Co., Bend, Ore. Other officers are Nils Hult, Hult Lbr. Co., Junction City, 1st vice pres.; Frank R. Gilchrist, Gilchrist Lbr. Co., Gilchrist, 2nd vice pres.; Robert P. Conklin, Cascade Plywood Co., treasurer; J. R. Frum, Crown Zellerbach, asst. treas. Charles E. Ogle, Salem, was re-elected sec.-manager with Charles M. Sanford as his assistant.

• A six-day course in lumber seasoning was held at the Oregon Forest Products Laboratory, Corvallis, Ore. in December, with 32 men from the west coast lumber industry attending.

• Although Timberland Lumber Co., New Westminster, B.C., has been acquired by Canadian Collieries, Ltd., it will not result in retirement of J. G. Robson, head of the company for many years. Mr. Robson, a former president of the B.C. Lumber Manufacturers Association, continues as head of the Timberland Division of Canadian Collieries and no change in operating policy is planned. Canadian Collieries becomes one of the larger independent lumber manufacturers in British Columbia, with production from both mills estimated at 80,000,000 board feet and earnings exceeding $2,000,000 annually.

• Merger of Crown Zellerbach Corp. and Gaylord Container Corp., has been consummated. Newly elected directors, who bring the total number of directors to nineteen, are: Joseph M. Arndt, vice president and director of Gaylord, A. Conger Goodyear, chairman of the board of Gaylord, Charles W. Goodyear, first vice president and director of Gaylord; and Edwin J. Spiegel, president and director of Gaylord. Mr. Spiegel was elected vice president and a member of the corporation's Executive Committee; Vertrees Young, executive vice president and director of Gaylord, was appointed a member of Crown Zellerbach's management committee.

• A partnership composed of Ernest W. McAfee and John E. McCall, was formed recently and is doing a wholesale and commission lumber business under the firm name of McAfee & McCall with offices at 1320 East McLemore Avenue, Memphis, Tenn. West coast, southern pine and southern hardwood lumber is being handled by the new firm.

• Four representatives of Scott Paper Co. will sit on the board of B.C. Forest Products, Ltd., following completion of the agreement whereby the former company acquires 1,000,000 shares of the latter for approximately $15,000,000. Construction of the company's 426 ton bleached sulfate mill at Crofton, Vancouver Island, will be started early this year, to be in production by late 1957 or early 1958.

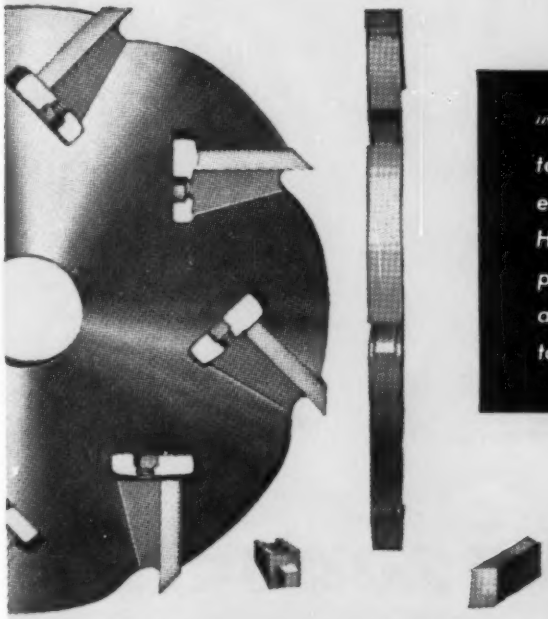
• The Pacific Northwest's multi-million dollar Christmas tree industry suffered a severe blow when an off-season cold spell hit in November, setting record low temperatures and killing or injuring young growth trees throughout the region. In Washington, state and private crews patrolled young-growth lands in an attempt to stop widespread trespassing by Christmas tree seekers.

• The Shreveport, La., plant of the American Creosoting Co. has been purchased by Olin Mathieson Chemical Corp. Creosoting operations, which have been conducted at the Forest Products Division's Bell Street treating plant in Shreveport, will eventually be concentrated at the newly acquired facility, according to vice-president W. H. Brown.

• At the request of the Honolulu Advertiser, Powell River Co. has sent a Sitka spruce log cut from the Queen Charlotte Islands operations which will be one of the attractions of the Hawaii newspaper's centennial next July.

• New Zealand Forest Products, Ltd., Auckland, New Zealand, plans to spend from 8,000,000 to 10,000,000 pounds on an expansion program. Among the improvements will be a new band sawmill with all the necessary auxiliary equipment. The new equipment will increase the company's lumber cut from 60,000,000 feet annually to 75-80,000,000 feet. A new paper mill will be built and the capacity of the present mill increased. The company's kraft mill will also be enlarged. Capacity of the building board plant will be increased to 100,000 tons annually. Sir David Henry, managing director, was recently in the United States.

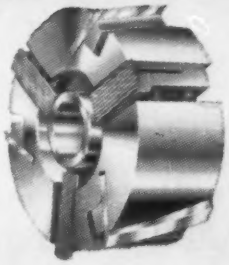
"They've got to be good to stay here!"



"With competition the way it is, we've just GOT to be hard-boiled when it comes to buying equipment. We use JONES & ORTH Cutter Heads because they give us MORE production per dollar, with LESS mechanical grief than anything we've found. They've GOT to be good to stay here!"

AT LEFT is shown a Jones & Orth 8-knife Wedge Type Groover Disc, fitted with corrugated adjustable high-speed steel teeth. Easily adjusted to, and always maintains exact desired width of kerf. Teeth are easily changed, sharpened or replaced. Available in 6" to 14" diameter, 4 to 12 knives.

What's Your Problem?



Illustrated is a Jones & Orth Round Tenoner Head, designed for top production, ease and precision of adjustment, and minimum service requirements.

You're not gambling when you specify JONES & ORTH Cutter Heads for your woodworking equipment! Over thirty years of specialized experience in this field assures you of top service and performance from *any* JONES & ORTH Head.

Action? You get it . . . but *fast* with us! Our large stocks enable us to give you "same day shipment" on *many* orders, four out of five in 24 hours!

Write today for the name of our dealer nearest you! Address either our Seattle or Memphis branch.

Catalog? You bet! Let us send you your copy! How else can we serve?

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SEATTLE 14, WASH.

HOW TO BOOST PRODUCTION
in selective logging operations

By switching from stationary jammers to a mobile Bucyrus-Erie 22-B Transit Crane, Bache Brothers, logging contractors of Libby, Montana, have eased a major problem in selective logging operations — how to reduce non-productive time of equipment and manpower.

"The Transit Crane lets me get more flexibility out of my crew and equipment," Esbon Bache, partner in the firm, reports. "Suppose I can't get enough trucks to haul the stuff out. That's no longer any excuse to knock off skidding, because this jammer will quickly stack excess logs over the bank, and pick them up again just as quickly when trucks become available.

"Or suppose one of my landings a half-mile up the road is getting filled. Do I knock off and move my skidding equipment to another landing? Not with this truck-mounted unit. It can change landings in a matter of minutes."

All the facts on Transit Cranes are available at your nearby Bucyrus-Erie distributor. See him now for detailed information on these two models: the 25-ton 22-B, convertible to ¾-yd. excavator and the smaller 15-ton 15-B, convertible to ½-yd. excavator. Crawler-mounted cranes are available in a variety of sizes, too. 164E55

BUCYRUS ERIE
South Milwaukee Wisconsin

75 YEARS OF SERVICE to Men Who Shape the Earth

Al Thrasher

"We can't afford breakdowns, and for six years the Gargoyle lubricants we've been using in all our equipment have helped us avoid them."

So says Al Thrasher, whose stud mill at Blue Lake, Calif., turns out more than 125,000 board feet daily on a production line which runs from log pond to stud stacker (above). Failure of any equipment along the way means the whole production line is down.

Your machinery, too, can have the added protection that's part of General Petroleum's service to the lumber industry. Just call your nearest G.P. office today for the tops in product and service.

2-1021

SOCONY MOBIL

GENERAL PETROLEUM CORPORATION

Late Forest Industries News

• Total replacement value for plant and equipment in British Columbia's forest industry is estimated at more than one billion dollars, according to a survey made by a research team preparing data for the Royal Commission on Canada's economic prospects.

• Douglas fir plywood's biggest year has just ended, with a production total nearing five billion square feet. Mills in production during this new year will total 124, or more. Predictions for 1956 place the output of softwood plywood even higher —up around 5.6 billion sq. ft.

• Casper Mill at Casper, Calif., has halted operation after 90 years of operation as one of the big redwood mills of the state. Woods operation ceased last fall. Some 2, million feet of pond-stored logs have been sold to Union Lumber Co., Fort Bragg, along with 7 million feet of lumber.

• The Minnesota and Ontario Paper Co., Minneapolis, Minn., continued its building program during the year with diversification and improvement expenditures of more than $7 million. Further projects, he said, totaling approximately $42 million are contemplated for the next four years.

• United States Plywood Corp., reported the highest earnings and sales for any six months period in the company's history. Sales for the six months ending October 31 totaled $101,472,000 compared with $61,437,000 for the same period in 1954. Net profit for the 1955 six months period totaled $5,923,000 equal to $2.79 per share, compared with $2,853,700 or $1.62 per share in the same 1954 period.

• Powell River Co. has undertaken a major road construction job at its Salmon River operations near Kelsey Bay, east coast of Vancouver Island. Two bridges—421 feet and 385 feet long—which were built in 1937 when railroad logging was still in practise are being eliminated, and a new road 40 feet wide is being built around the bend of the Salmon River by-passing the bridges. The largest cut is 700 feet long through a 40-foot high clay bank, and the largest fill 55 feet deep, 250 feet in length, both with a width of 40 feet.

• Four companies will share contracts totaling $4.4 million of clearing the site of the B.C. Power Commission's hydro electric development on Upper Campbell Lake, Vancouver Island. The project, involving the removal of 30 million board feet of timber from 6,189 acres, was divided into eleven contract areas, four of which will be cleared by Baikie Bros. Logging Co. for $820,716. Joint bidders, Trethewey Logging Co. and Cattermole Timber Co., will clear three areas for $1,390,807; Lakeberg Logging Co. will clear one area for $1,385,856, and Modern Excavating Co., Seattle, has been assigned three areas for a total cost of $868,572.

• Western red cedar siding is the subject of a research program underway by the Western Red Cedar Lumber Association, which will make fund grants to several laboratories and schools to determine the best methods of application and surfacing. The program will be directed by Clark C. Heritage of Tacoma, retired Weyerhaeuser development director.

• Weyerhaeuser Timber Co. common shares have been split four-for-one. Formerly issued shares numbering 6,250,000 with a $25 par value per share were changed into 25 million shares with a par share value of $7.50.

• Pacific Lumber Inspection Bureau, B. C. Division, will open a Toronto office to provide re-inspection services for shipments of lumber from the interior of British Columbia to Eastern Canada. Wm. C. Clark is in charge. It is anticipated that this service will be made available also to shippers from U. S. Coast and British Columbia mills where no other re-inspection service is available.

• Two of the nation's most productive lumber districts, southern Oregon and Northern California, are facing the problems of reconstruction of communication and transportation following one of the most disastrous floods in western history. Many well-known lumber towns and cities such as Coquille, Bandon, Gold Beach, Mrytle Point and Riddle in Oregon and Klamath, Eureka, Marysville and others in California were seriously flooded or completely isolated.

THE LUMBERMAN'S List of Industry Meetings

January, 1956

Northwest Hardwood Association, Quarterly Meeting, Chamber of Commerce Auditorium, Portland, Ore., including hardwood products exhibit, (10 am to 4:30 pm), Jan. 21

Natl. Wooden Pallet Mfrs. Assoc., Semi-annual meeting, Ellinor Village, Daytona Beach, Fla., Jan. 22-24.

February, 1956

Governor's Industrial Safety Conference, Fairmont Hotel, San Francisco, Calif., February 2-3, 1956.

Forest Products Research Society, Pac. NW Section, Monticello Hotel, Longview, Wash., Feb. 6-7.

National Wooden Box Association, Shamrock Hotel, Houston, Feb. 6-7.

National Association of Commission Lumber Salesmen, Hotel Leamington, Minneapolis, February 6-7-8.

Sierra-Cascade Logging Conference and Machinery Show, Redding, Calif., February 14-16.

March, 1956

Willamette Valley Logging Conference and Machinery Show, Eugene, Ore., March 1-2-3.

Southern Oregon-Northern California Lumber Seasoning Club, at Brooks-Scanlon Mill, Bend, Ore., March 3.

Western Pine Association, Sheraton Palace Hotel, San Francisco, March 8-10.

Intermountain Logging Conference, Spokane, Wash., March 26-27-28.

April, 1956

Forest Products Safety Conference, Klamath Falls, Ore., April 5-7, 1956.

Washington Governor's Industrial Safety Conference, Olympia, April 9-10.

May, 1956

Olympic Logging Conference, annual meeting, Empress Hotel, Victoria, B. C., May 3-4, 1956.

National Plywood Distributors Association, Broadmoor Hotel, Colorado Springs, Colo., May 19-21.

Redwood Region Logging Conference and Machinery Show, Ukiah, Calif., May 25-26.

June, 1956

Forest Products Research Society, Asheville, North Carolina, June 4-7.

November, 1956

Pacific Logging Congress, San Francisco, Calif. (mid-November).

ANOTHER LOW-COST HAUL ROAD PIONEERED BY A **D8**

Earl Brittain, owner of R. C. Miller Logging Co., says: "We use Caterpillar Diesel Tractors exclusively and find their ruggedness a great contribution to production as high as 34 million bd. ft. a year, 7 million bd. ft. a month and 416,860 bd. ft. a day. Our Caterpillar Dealer's excellent service has been of great value in maintenance."

Some 32 miles southeast of Arcata, California, the R. C. Miller Logging Co. is taking fir out of a 20,000-acre stand. This CAT* D8 Tractor with No. 8S Bulldozer is pioneering one-half mile of new haul road. The outfit's line-up, 100% Caterpillar, includes five other D8s logging, a D8 with triple drum yarder and a No. 12 Motor Grader.

This is a year-round show, so machines that stay on the job day after day with a minimum of down time make a big difference on the profit side of the ledger. Road building, skidding, bulldozing landings and doing any other routine woods job, there's no question about the outstanding performance of the D8. That's demonstrated here—and on show after show. And here, as everywhere, there's fast on-the-spot service from the Caterpillar Dealer.

Now a new D8 with torque converter (Series D) or with oil clutch drive (Series E)

Ask your Caterpillar Dealer about the new D8, a major advance in tractor design with choice of torque converter or oil clutch drive. From its long, new 7-roller track frame to its new 191-HP engine, it's built to set new standards of money-making production. Call your dealer today!

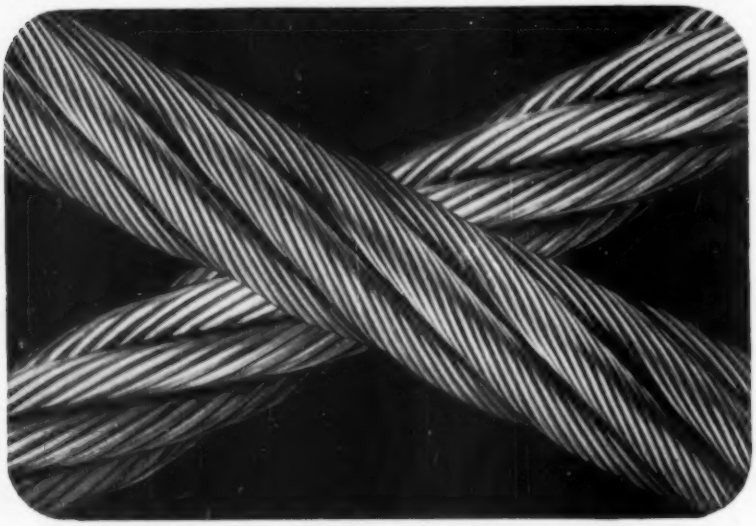
Caterpillar Tractor Co., San Leandro, Cal.; Peoria, Ill., U.S.A.

CATERPILLAR*

*Cat and Caterpillar are Registered Trademarks of Caterpillar Tractor Co., U. S. A.

USE CAT EQUIPMENT FOR MONEY-MAKING PRODUCTION

FIRST WE DEVELOPED 1105 ROPE WIRE.



THEN WE MADE ROEBLING'S

Royal Blue

WIRE 1105 ROPE

1105 takes Royal Blue out of the ordinary wire rope class.

1105 is a rope wire that's new—that's stronger. It's the biggest news in many years.

1105 is the result of more than a century of research and development—it's the wire that gives Roebling Royal Blue the stamina that pays off in service.

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New Marion 43-M Log Loader on the job at Elk Creek Logging Co., Estacada, Oregon. Tram boom was built by Eugene Truck and Equipment.

NOW—Handle MORE Logs at Less Cost with a MARION 43-M

You can't beat the MARION 43-M for record-breaking log loading profits. It has the ability to handle more big logs in less time and at lower cost.

Field proven, advanced design air control and air clutches provide instant, accurate and smooth hoisting, swinging and traveling motions. Independent boom hoist is standard. Reversible drum under power is used to push out tong cable, saving time and energy. Torque converter available as optional equipment.

We'd welcome an inquiry and the opportunity to give you job-proven, profit facts on many 43-M's now in operation in the logging industry.

OTHER IMPORTANT 43-M FEATURES

- Only 12 gears in the entire machine.
- 22 anti-friction bearings protect principal wear points.
- Crawlers unmatched for self-cleaning, non-clogging operation.
- Independent travel optionally available.

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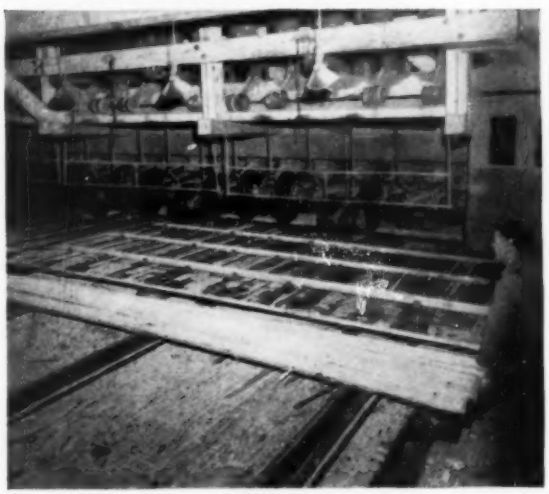
MARION
Marion Power Shovel Co.
Marion, Ohio, U. S. A.

You can't see the trees for the forest

No, you can't see the trees that have gone into this forest of new homes. Multiply this community by thousands of other new developments . . . millions of new homes, and you get some idea of the tremendous production task faced by the industry that turns trees into finished lumber so these homes can be built. In 1954, lumber mills produced more than 36,000,000,000 board feet . . . enough lumber for 3,500,000 average homes.

How does the lumber industry keep pace with demand? Efficient materials handling supplies a good part of the answer. Every step of the way from logs to lumber, conveyors help step up capacity...reduce costs...increase efficiency. And, like so many other basic industries, lumber mills turn to CHAIN Belt for conveyor chains that effectively resist the destructive pounding and abrasive wear of this rugged service.

For equipment and methods that can help you reduce costs and increase efficiency—conveyor and drive chains, belt conveyors and bucket elevators, consult your CHAIN Belt Field Sales Engineer. Write CHAIN Belt Company, 4653 W. Greenfield Avenue, Milwaukee 1, Wis.



Rex® Conveyor Chains carry rough lumber through trimmer saws which cut lumber to size. Thousands of feet of chain conveyors are used in the average lumber mill.

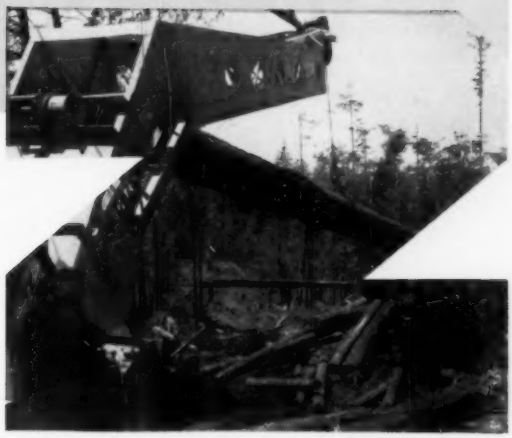
Industry looks to CHAIN BELT COMPANY

REX®

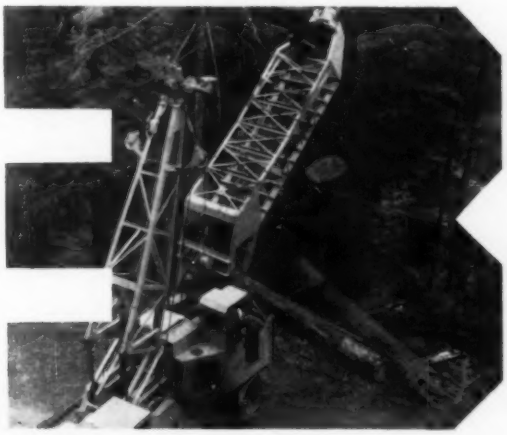
Drive and Conveyor Chains • Sprockets • Bulk Handling Conveyors • Construction Machinery • Water and Waste Treatment Equipment • Self-Aligning Roller Bearings

SKAGIT SJ-4's MONEY MAKERS ON 4 TOUGH JOBS

SCHOTTHOFER LOGGING CO., STAYTON, ORE.
makes re-logging pay off with their SJ-4. The versatile yarder-loader moves from setting to setting and is quickly set up with hydraulic jacks and powered guylines. "Runs in high gear most of the time," say owners.



BRANNON LOGGING CO., COQUILLE, ORE.
sort and load long logs fast and economically with their SJ-4. Changing from a choker to a tongs takes only seconds. "It's faster, more stable than sled machines," says Brannon's operator.



TUFF-LUCK LOGGING CO., BLUE RIVER, ORE.
makes pre-logging highly profitable with their SJ-4, doing both yarding and loading with a minimum crew. Plenty of snap with the torque-converter and the 172 hp. engine on the drum set, and a separate engine to power the chassis for quick moves. "1000% sold!" says owner Kenady.

CROWLEY BROS., BANDON, ORE.
log scattered patches with their SJ-4 and keep production high by keeping yarding distances short. "When Cat yarding distances crowd 400 ft. our SJ-4 moves up. It's doubled the value of our tractor," say Crowleys.

Check with the operators who use the Skagit SJ-4 on *any* tough job. They'll agree with the Crowley Bros. that they're getting "the biggest return from any piece of equipment we've ever bought".

Report after report adds to the Skagit pay-off record. The SJ-4 is powered by a Ford V-8 172 hp. heavy-duty engine on a roller bearing drum set with Skagit torque converter, 2-speed air-shift transmission. Separate Ford 132 hp. engine for chassis. Hydraulic jacks. Find out about mobile logging profits by visiting your Skagit dealer today, or by writing the factory.

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STEEL & IRON WORKS
SEDRO-WOOLLEY, WASHINGTON
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® Reg. U. S. Pat. Off.

EATON FEATURES
reduce hauling costs, keep trucks on the job

PLANETARY GEAR DESIGN—
distributes pressure and wear over four planetary gears, resulting in lower unit stress, reduced maintenance, longer axle life.

FORCED-FLOW LUBRICATING SYSTEM—
supplies positive lubrication to all moving axle parts, even at slowest vehicle speeds.

POSITIVE SHIFT CONTROL—
provides quick, easy shifts. Drivers use available gear ratios—the right ratio for road and load conditions.

SELF-CONTAINED AIR BRAKE—
provides for greater braking efficiency; quicker action, quicker release; quick, easy reline. Available on Eaton air brake models.

EXTRA-RUGGED CONSTRUCTION—
eliminates the possibility of harmful distortion or misalignment under full load, holds maintenance to a minimum.

More than Two Million
Eaton Axles in Trucks Today!
Ask your truck dealer
for complete information.

EATON 2-SPEED AXLES

EATON
AXLE DIVISION
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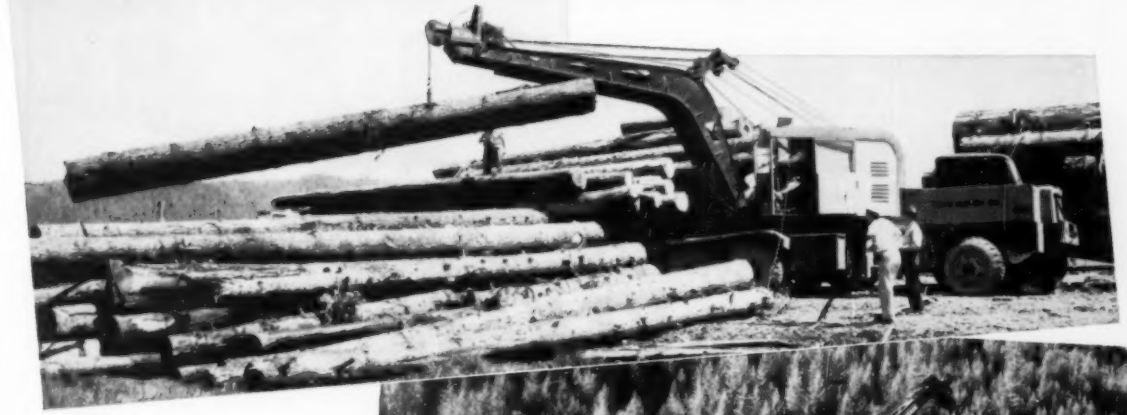
CLEVELAND, OHIO

PRODUCTS: Sodium Cooled, Poppet, and Free Valves • Tappets • Hydraulic Valve Lifters • Valve Seat Inserts • Jet Engine Parts • Rotor Pumps • Motor Truck Axles • Permanent Mold Gray Iron Castings • Heater Defroster Units • Snap Rings Springtites • Spring Washers • Cold Drawn Steel • Stampings • Leaf and Coil Springs • Dynamatic Drives, Brakes, Dynamometers

2 REASONS WHY OHIO MATCH CO. SELECTED LORAIN Log-Loaders

2 JOBS—2 LORAINS . . . both owned by the well-known Ohio Match Co. But, study the pictures and the job descriptions carefully. You will see two entirely different operations at two different locations. And you will see why Ohio Match Co. made Lorains their choice. Loggers have learned to count on Lorain Log Loaders to fit *every* log loading need. Whether it's a job at the mill or in the woods, they have found Lorain selection the answer to lower costs. They have been able to fit their needs from sturdy, crawler mountings . . . or they have put the high travel speed and mobility of rubber-tire Lorains to work on multiple-landing and widely-scattered logging operations. Proof is here at these two Ohio Match Co. operations . . . proof that Lorains can handle logs wherever you want to go.

MOBILITY ON RUBBER TIRES—*At Clarkia, Idaho, a 30-ton Lorain Moto-Crane, model MC-524, handles floodwood, using a special heeling boom and tongs. The mobile, fast-stepping Lorain unloads trucks and loads rail cars all around the area, handling up to 175,000 bd. ft. per day. When needed in the woods, the MC-524 has plenty of speed (up to 30 m.p.h.) to get there fast and plenty of tractive effort and big-tire flotation to take it off-the-road in rough terrain.*



BIG CAPACITY ON CRAWLERS

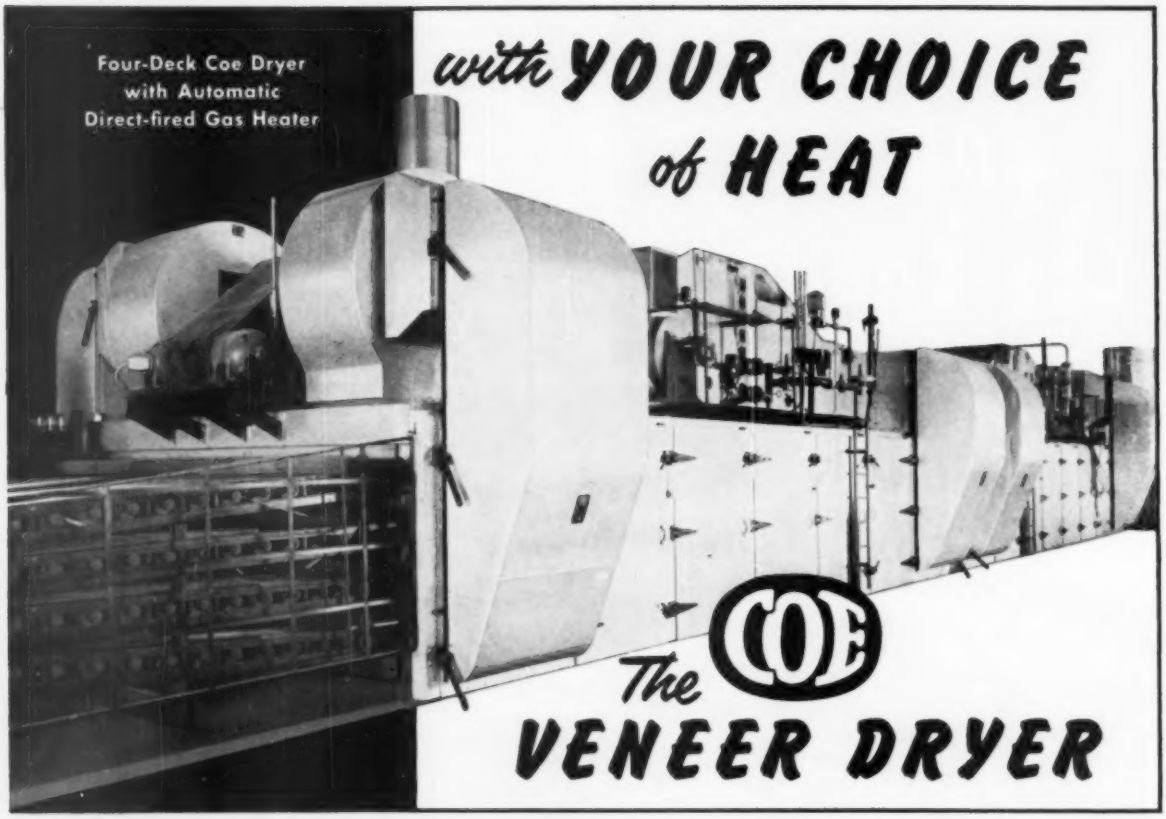
This landing at Avery, Idaho, is another Ohio Match Co. show. Here, a big 40-ton Lorain-85 Log Loader on a crawler mounting is equipped with a special elevated cab to give the operator a "bird's eye" view into the car. Using a 50-ft. boom with log grapple, the L-85 handles logs up to 32-ft. long. Because most logs are of small diameter, the log grapple picks up several at a time, handles an average of 200,000 bd. ft. a day, unloading trucks and loading cars.

• See your Thew-Lorain Distributor for full facts about Lorain Log Loaders. He offers the most complete selection—crawler types up to 61 tons—rubber-tire mountings up 45 tons.

THE THEW SHOVEL CO., LORAIN, OHIO

THEW LORAIN®

First Choice of the Industry



GAS—High temperature and quick response to control are available in a Coe Dryer equipped with a direct-fired gas heater. Twenty-five years of experience are built into this heater developed by Coe exclusively for dryer application.

OIL—Either light domestic oil or economical heavy #6 oil can be used in Coe oil heaters designed to fit your individual needs. Although maintaining complete combustion and accurate control are difficult problems, our engineers are familiar with these and the other factors involved.

STEAM—In many plants an excess of wood waste is available which when converted into steam, can be advantageously used for drying veneer. Steam coils above and below each deck supply uniform heat on the sheets of veneer passing through the dryer.

Whether you are contemplating the installation of additional drying capacity or considering converting from one fuel to another, the Coe sales engineer nearest you will be glad to make an analysis and determine the best and most economical fuel for your use.

The COE MFG. Company
PAINESVILLE, OHIO

Veneer Machinery Since 1852

LATHES • CLIPPERS • DRYERS • KNIFE GRINDERS

Carco winches are giving many other loggers the same dependable performance they are giving The Fruit Growers Supply Company. There are Carco winches engineered to match the performance of all leading makes and models of industrial tractors.

CARCO WINCHES HELP LOG 5,000,000 BOARD FEET FROM VOLCANIC CRATER

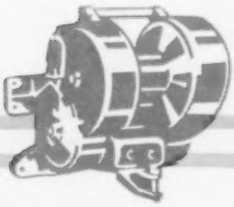
When logging in a volcanic crater, you're up against pretty tough conditions. Steep slopes, boulders and loose volcanic cinders give tractors poor traction for yarding. This makes a dependable winch necessary to profitable production. When tracks slip, you've got to winch in many logs if you want to get them.

The Fruit Growers Supply Company of Susanville, California, used Carco winches . . . and arches . . . exclusively, in taking out over 5 million board feet from the inside of Crater Mountain in Lassen National Forest.

Logging Superintendent Daniel S. Johnson operated six Caterpillar D-8 tractors on each of two sides in producing about 400,000 board feet per day. Every one of the 12 Caterpillar tractors was equipped with a Model J Carco winch. Eleven Carco arches were also used in yarding maximum distances of about 1,000 feet.

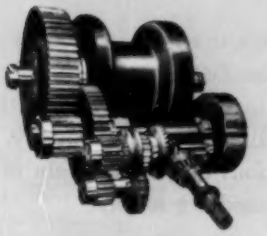
Mr. Johnson says "our Carco winches and arches have been satisfactory in every respect. The winch is a powerful and rugged attachment for our tractors. Maintenance is negligible. We feel Carco's concealed controls are an outstanding advantage over other winches. Our Carco arches give trouble-free service."

Remember, you can expect greater value from the leading producer, and get it from Carco, first in winch production. See your Carco dealer. PACIFIC CAR AND FOUNDRY COMPANY, Renton, Washington. Branch at Chicago, Ill.



WINCHES
FOR ALL
LOGGING TRACTORS

The brake on Carco Model J winch is automatic free-wheeling type. By setting lever before lifting load, the brake takes effect the instant tractor clutch is disengaged, holding load instantly and automatically. Solid brake can be supplied for Model J when desired.



Tractor power is converted by the Model J into line pull efficiently and directly through the constant mesh 4-stage gear train. Tractor pulling power is doubled by the 45:1 ratio of gear reduction. Reverse provides greater line speed for paying out the line.

Carco's concealed push-pull cable control eliminates brake and shift arm projections beyond the winch case and clears tractor fender of control rods. Snag-catching projections and vulnerable control rods are completely eliminated and with them costly maintenance.

Carco winches offer loggers proven dependability. The engineering features and rugged reliability of Carco winches have stood the test of time in the toughest kinds of service in all parts of the world. That's one reason why Carco makes more winches for more makes and models of logging and industrial tractors than any other producer.

CARCO

LIMA

LIMA CRANES

...with mountings for every need

Cranes—Crawler mounted, Truck mounted—Wagon mounted. Baldwin-Lima-Hamilton builds them all and in sizes that will best meet your requirements. When mounted on rubber they are available in capacities up to 50 tons. They will go anywhere you care to drive a truck and at speeds up to 25 m.p.h.

Write today for a copy of our bulletin "LIMA for Logging." It contains information on the full line of quality-built LIMA cranes and shovels for the logging industry. You'll find in it descriptions of just the right machines for your timber handling needs.

CRAWLER TYPE

- available in variable capacities
- travel speed up to 1 m.p.h.
- all major operations air controlled except types 34 and 44
- independent boom hoist
- long-wide crawlers for greater stability

TRUCK TYPE

- mounted on LIMA 10 wheel truck carrier
- powered by two engines (one in carrier, one in rotating frame)
- travel speed, 25 m.p.h.
- types 24, 34, 44, 54 and 703 available with truck mounting

WAGON TYPE

- types 24, 34, 44, 54 and 604 available with wagon mounting
- one engine powers all operations including travel
- one operator controls all operations from cab
- rotating assemblies have same basic features as corresponding crawler type machines

BLH

LIMA SHOVELS · CRANES · DRAGLINES · PULLSHOVELS

BALDWIN-LIMA-HAMILTON

Construction Equipment Division · LIMA · OHIO · U. S. A.

Our Seattle Office
1932 First Avenue South
Seattle, Washington

Alaskan Distributor
Western Tractor & Equipment Co.
2230 First Avenue, South
Seattle 4, Washington

Feenaughty Machinery Company
112 S.E. Belmont Street
Portland 14, Oregon

Modern Machinery Co., Inc.
4973 Third Avenue South
Seattle, Washington

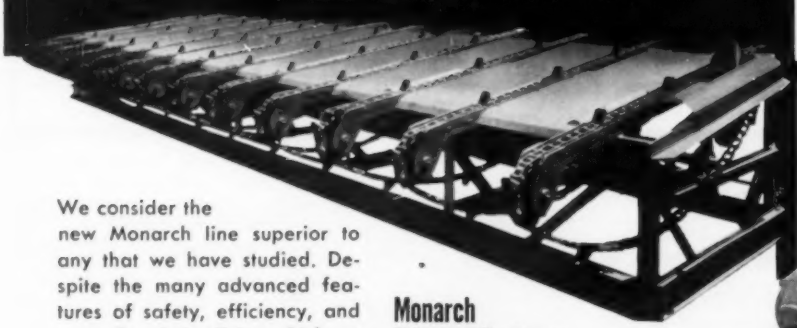
Feenaughty Machinery Company
600 Front Street
Boise, Idaho

Dietrich-Collins Equipment Ltd.
890 S.W. Marine Drive
Vancouver, B. C., Canada

Modern Machinery Co., Inc.
4412 Trent Ave.
Spokane 2, Washington

Cascade Industrial Supply
Highway 99, So.
Redding, California

SPEED is what we want... so we use a MONARCH Trimmer



We consider the new Monarch line superior to any that we have studied. Despite the many advanced features of safety, efficiency, and operational simplicity, which we have included in this series, we are able to offer units at even less cost than older designs now on the market. Complete specifications for either undercut or overhead trimmers are available upon request.

Joe Gallacci
Gallacci Lumber Company
Cloverdale, California
Told us:

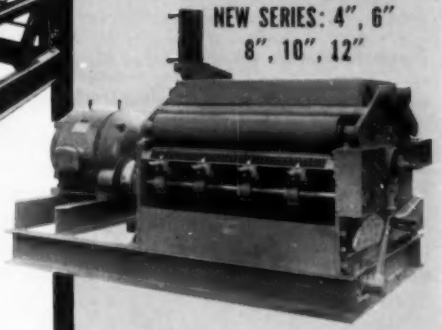
"Operating costs are so high today that about the only margin of profit left in the lumber business is in the speed with which quality lumber can be produced. To help meet this requirement we ordered a Monarch trimmer. Our choice was a good one. The unit is fast, accurate, easy to operate, and profitable."

Monarch Trimmer Features:

- Belts, arms and air cylinders are guarded by removable covers which keep slivers and sawdust out of the mechanism.
- Rolls mounted ahead of the saws permit even ending of the lumber. (Optional)
- Chains have rounded face dogs for easy sliding of the lumber.
- Belts can be quickly changed without disturbing arbor shaft bearings.
- Air lifts on saws are controlled by Solenoid valves operated by the trimmer man.

Monarch Edgers

NEW SERIES: 4", 6" 8", 10", 12"



Easiest to shift of any, yet the Monarch edger guarantees accuracy of cut with positive new lock!

Available as either stub or table edger with or without power shift.

Simplified shifting mechanism reduces effort and labor time, yet each board receives a true clean edge, absolutely uniform. Saw arbors are double-keyed, large diameter, chrome-plated alloy steel, superior to any model of comparable price.

Complete specifications available upon request.

Send for Complete Information

MONARCH FORGE AND MACHINE WORKS, INC.
2130 N. W. York Street, Portland 10, Oregon

Gentlemen: Please send me additional literature on
Bandmills ☐ Carriages ☐ Line Bar Resaws ☐
Resaws ☐ Trimmers ☐ Edgers ☐

Name_____

Address_____

City_____ Zone____ State_____

Monarch
Forge & Machine Works, Inc.

Modern Machinery Co., Inc.
4973 Third Avenue South
Seattle, Washington

Cascade Industrial Supply
Highway 99, So.
Redding, California

Down time is no joke.

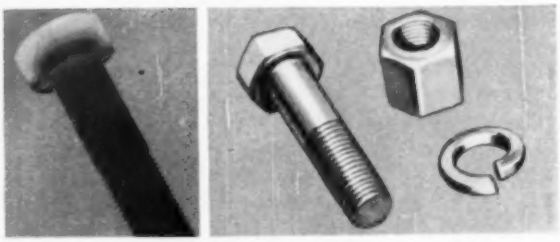
But it happens at times when track hardware gives out.

If you replace with original Caterpillar hardware, here's what you're sure of: bolts, nuts, capscrews and lock washers made from prechecked fine-grade steels, carefully hardened and tested, finished to the strictest specifications in the industry. You're sure of longer wear life, no matter how tough your jobs come. You're sure of *less* down time in the future.

If you replace with substitute hardware—can you be sure of anything?

Better get Caterpillar parts every time.

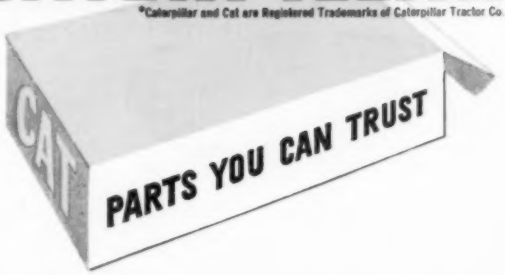
Caterpillar Tractor Co., San Francisco, Cal.; Peoria, Ill., U.S.A.



On the surface, CAT® hardware looks like ordinary kind. But etched cross section of newly designed track bolt (left) shows depth of special "Hi-Electro" hardening penetration in bolt head.

CATERPILLAR*

*Caterpillar and Cat are Registered Trademarks of Caterpillar Tractor Co.



THE Lumberman —SAFETY ENGINEERING

OTTO Observes Its Fifth Anniversary

• Five years old in January, OTTO, which is loggers' language for Oregon Timber Transport Operators, can look back at a good record of educating the public about log trucks—and driving home safety awareness to truck drivers.

In a special issue of its official bulletin, friendly Jack Curtis, roving safety director for the state-wide group, tells of the group's accomplishments.

Since January 1951, OTTO has put out over 75,000 bulletins, held over 100 driver and operators meetings, and has participated in additional hundreds of group meetings and dozens of radio broadcasts. It has been asked for assistance on the legislative front.

More people now know that all log truck drivers are not S. O. B.'s and that the majority of truck operators are interested in safe and courteous performance on public highways.

Curtis travels Oregon's highways in a panel truck donated by International Harvester Co. He tells the safety story to any truck driver who holds still for a minute, inspects trucks at landings or log dumps and has been dubbed "knight of the road" for his good Samaritan turns to highway travelers plagued with car troubles.

Jack Curtis, an experienced truck driver himself, has found that people are willing to listen to the industry's side of the story. It's a story, according to Curtis, that needs telling if there is to be less punitive legislation directed against the men who haul the region's logs to market.

Gilmore Honored

• Robert M. Gilmore, Hoquiam, Wash., Safety Director of Rayonier, Inc., was elected general chairman of the Woods Products section of the National Safety Council at the 43rd annual meeting of the National Safety Congress in Chicago in October.

The Woods Products section, which was organized in 1915, is one of the 26 industrial sections comprising the National Safety Council. It has 787 individual and company memberships located throughout the United States, Alaska, Hawaii, and most of the provinces of Canada, as well as in Sweden, Norway, Finland, Australia, New Zealand and South American countries.

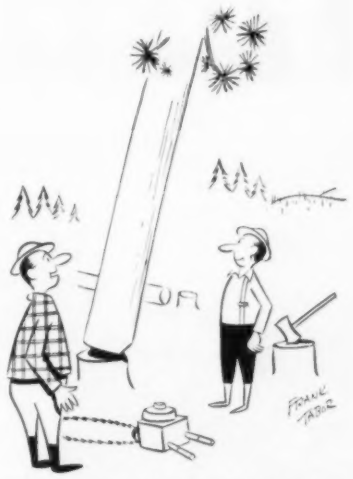
Gilmore is the first general chairman of this section with residence on the west coast of the United States. Currently, he is the chairman of the Washington State Safety Council.

• Proceedings of the 21st annual Western Products Safety Conference, held in Victoria, B. C., last June, have been published. These contain the complete text of all papers presented. Copies are available from secretary George W. Norris, B. C. Lumber Manufacturers Assoc., 550 Burrard St. Vancouver, B. C.

• The 7th annual meeting of the Idaho Logging & Sawmill Safety Assoc. will be held in the spring of 1956. Several top safety speakers are being lined up for the meeting by Ken Moscrip, association president, L. Cardiff Lbr. Co., Pierce. Speakers being scheduled are from major heavy duty equipment companies covering such subjects as safety in logging tractor operation, skidding, and loading and unloading logs.

• The stepped-up safety program of the St. Paul-Tacoma Logging Co., Tacoma, Wash., initiated by Allen Green, former Senior Logging Inspector of the Washington State Safety Division, is well under way.

A new "Safety Wagon" equipped with a two-way radio has been turned over to Green to use in his new work. Safety committees have been organized in each of the company's camps and each committee is taking an active interest in safety, according to Green. Visual aid will be used extensively in the safety training program. New First Aid equipment has been procured, as well as a portable loud-speaker and other equipment to modernize the safety program and make it as efficient and effective as is humanly possible.



"THIS IS THE TALLEST TREE I EVER SAW. NO NEED TO HOLLER 'TIMBER' FOR ANOTHER 15 MINUTES."

Fifth Wheel Serves Idaho Logging Trucks

• An improved type of "fifth wheel", made by Pierce Trailer and Equipment Co., Portland, Ore., is being installed on logging trucks of Loggers, Inc., Kooskia, Idaho. The new "wheel" is of machined steel. The top half has a flange around the outer edge which comes down over the bottom half, forming a seal against dust, sand, etc. Both pieces are grooved and vented for grease, fed to bearing surfaces by four alemite fittings when the bunk is in place. Advantages: longer life and helps prevent "bunk binding", which has been a safety hazard, especially on narrow winding mountain roads.

Minimum Stopping Distances for Motor Vehicles

Total Number of Feet

Speed In Miles Per Hr.	20	25	30	35	40	45	50	55	60
Passenger Vehicles (Not Buses)	69	91	114	145	178	217	258	307	360
Single Units (Under 10, 000 lbs.)	74	98	124	158	194	238	287	344	405
Single Units-2 axle (Over 10, 000 lbs.)	84	120	158	204	253	308	366	432	504
Combinations (10, 000 lbs & over)	94	136	181	235	293	360	430	510	597

Firestone NYLON TIRES

MOVE MORE LOGS AT LOWER COST

FIRESTONE Nylon Tires will stand up longer and reduce your tire costs in the toughest logging service.

You can move more logs at lower cost and your own cost records will prove it.

You will get longer service from Firestone Nylon Truck Tires and your cost will be lower because Firestone has moved far ahead of the field in tire design, in the use of quality materials and in tire building techniques for specialized logging service. For example, Firestone controls the stretch in nylon cord through the use of Safety-Tensioning and Gum-Dipping and thus licks tire growth.

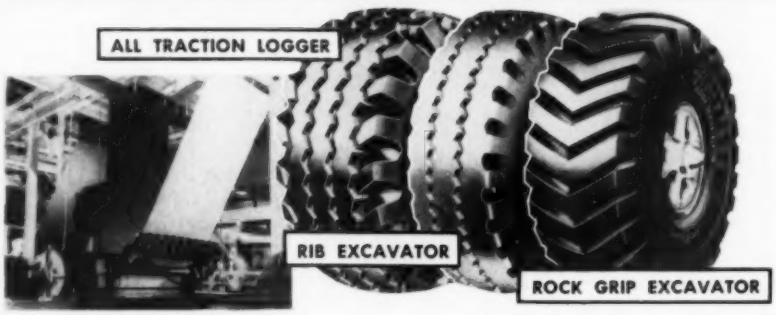
Your Firestone Dealer or Store can cut your cost with Firestone job-engineered Truck Tires and Truck Tire Service. Let them prove it.

WHEN ORDERING NEW EQUIPMENT, SPECIFY FIRESTONE TIRES

STRONGEST TRUCK TIRES EVER BUILT

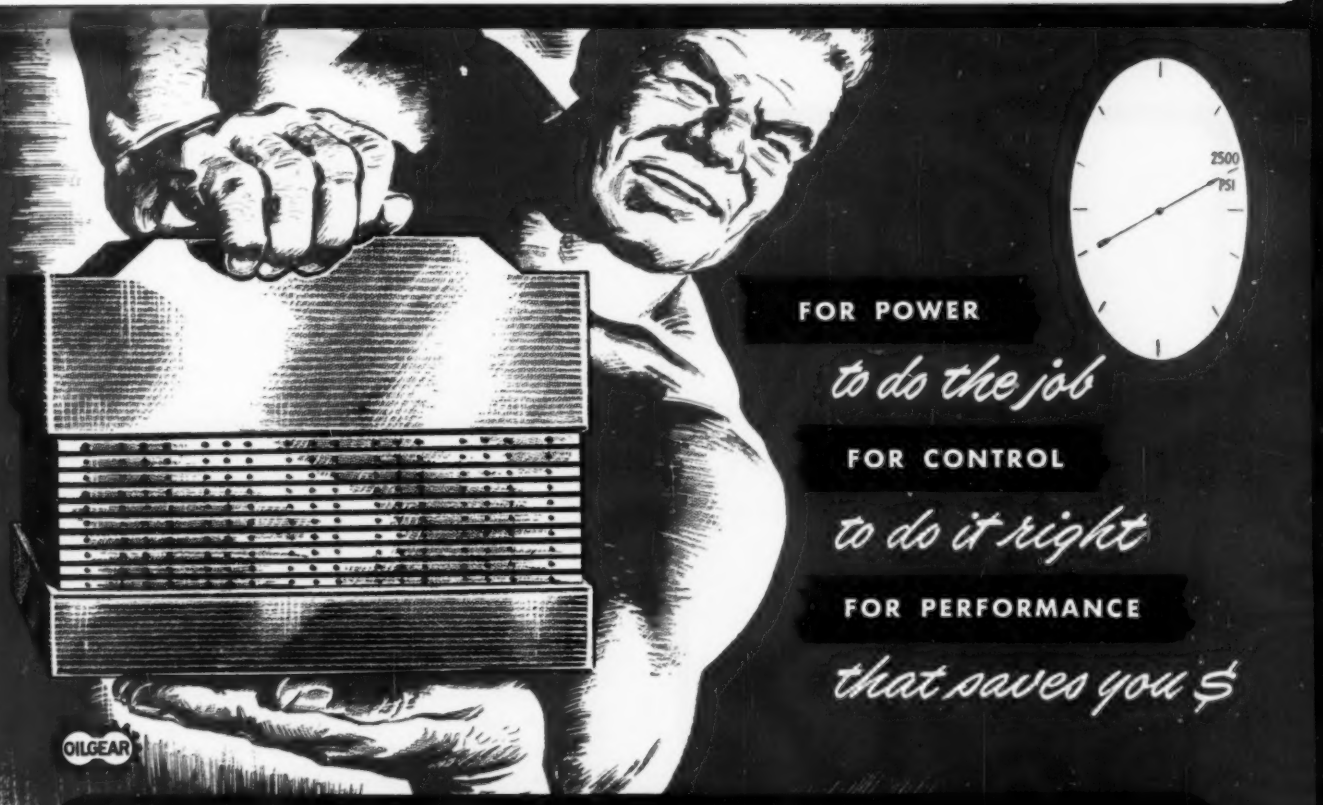
A new multi-million-dollar Firestone factory combines the famous Firestone Gum-Dipping process with Safety-Tensioning, a new Firestone process which takes the stretch out of truck tire cords. Firestone Safety-Tensioned Gum-Dipped* cord bodies eliminate tire growth and tread cracking, resist impact breaks, give longer tire life and more money-saving retreads.

*T.M. Reg. U.S. Pat. Off.



Enjoy the Voice of Firestone on radio or television every Monday evening over ABC

Copyright 1955, The Firestone Tire & Rubber Co.



FOR POWER
to do the job
FOR CONTROL
to do it right
FOR PERFORMANCE
that saves you $

Oilgear Fluid Power Systems
FOR HOT PLATE PRESSES

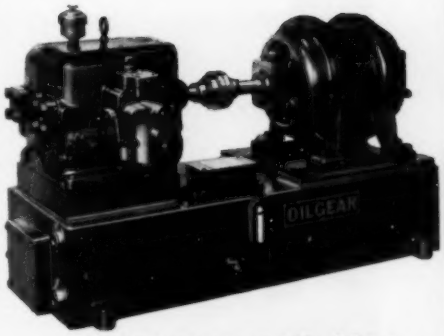
Many outstanding manufacturers of hot plate presses for the woodworking field, as well as makers of heavy duty presses in other fields, have standardized on Oilgear tried and proven "Fluid Power" pumps, cylinders and valves.

Oilgear systems on Veneer and Plywood Presses provide an adjustable working pressure to suit the work performed—a variable ram speed—automatic reduction of pump stroke and power input when pre-set pressure is reached—maximum pressure indefinitely without excessive heating or power loss. Low maintenance cost and high efficiency coupled with use of power only in proportion to the resistance of the work make their operation very economical. Simple, semi-automatic or full automatic controls are easily applied.

You get controlled, variable high speed for closing and opening press. You can vary the force to suit the material processed. You save a high percentage of power and reduce heat and wear during the curing time. Your Oilgear system will be simple, easy to install, and trouble-free. Investigate these and other operating values inherent in Oilgear pumps, cylinders, and valves. They have proven successful for over a quarter century on other tough applications.

Talk to mill men who have installed Oilgear and you will hear why they are enthusiastic about its ability to save time, money and work. Then write to our district or home office about Oilgear for

- Carriage Drives
- Gang Saw Feed Rolls
- Set Works and Holding Dogs
- Turners
- Niggers
- Barkers
- Edgers
- Haulers
- Conveyors
- Veneer Lathes
- Surfacers
- Hot Plate Presses
- Baling Presses
- Paper Machine Drives
- Calender Drives
- Winder Drives
- Unwinder Drives
- Hold-down Systems



Standard one-way variable delivery pump, type D.P. Automatic pressure unloading control, direct-connected electric motor, mounted on reservoir base.

THE OILGEAR COMPANY

1502 W. Pierce Street Milwaukee 4, Wisconsin

Talk to our Engineering Representatives!

MR. E. H. PARDUHN
914 Arctic Bldg., Seattle 4, Wash.
Phone: Main 7445

MR. CARL GOSEWEHR
851 Roosevelt Bldg., 727 West 7th Street
Los Angeles 17, Calif., Phone: Vandike 8544

OR WRITE MAIN OFFICE

Field engineering and service available on West Coast

Manitowoc Big Capacity, Great Stability Speeds Log Handling

1¼-yd. Rig Sorts and Loads an Average 600,000 Board Feet Per Week

High on a mountain in the Umpqua National Forest, Scott Logging Co. of Tiller, Ore., operates their Model 2000 Manitowoc log loader as an efficient sorting tool. Using Berger air tongs, the 1¼-yd. Manitowoc sorts and loads about 600,000 board feet of various size logs per week for the firm's saw mill and plywood mill. The unit can also be fitted with a conventional heel-type logging boom or easily converted for shovel or dragline operation.

EXCEPTIONAL MACHINE STABILITY

Real stability is a must on this job, as the operator often grabs large logs almost on the end, placing most of the weight far ahead of the boom. Because of remarkably well-balanced design and a rugged, wide-spread crawler base, this husky, 25 ton Manitowoc takes these greatly off-balance loads without a shiver or shake!

EXTREME TRAVEL GRADE

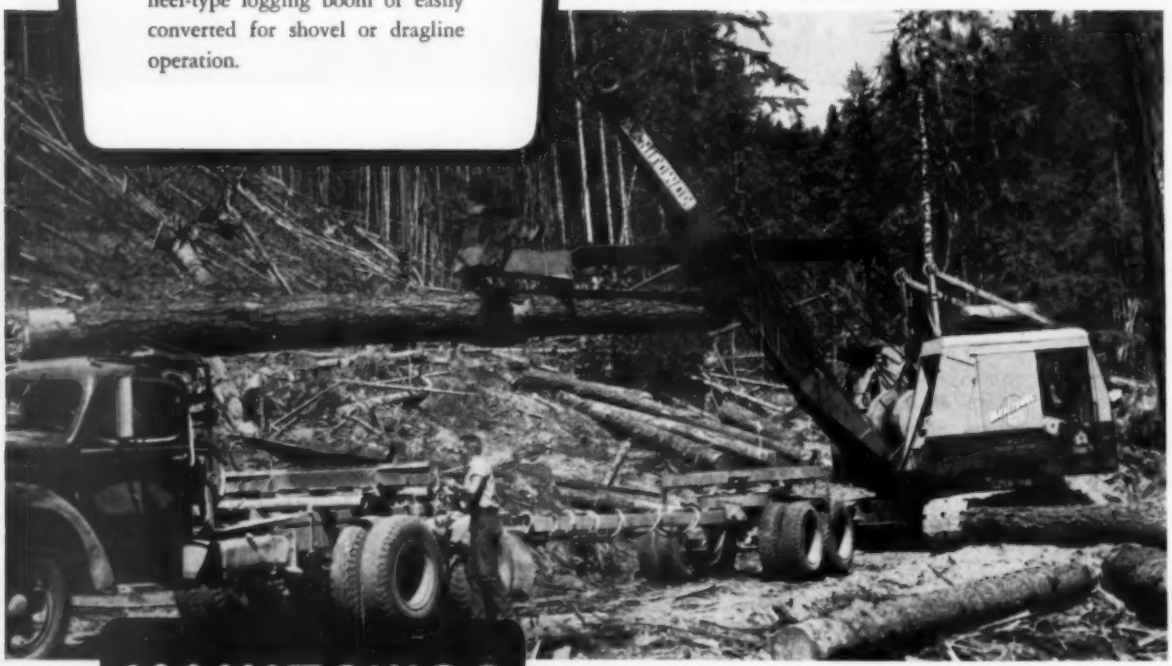
Another rough feature of the job is the abrupt climb to the work level. But the 2000 has no trouble maneuvering the steeply-pitched grade. A simple, powerful drive, having only one shaft and two gears provides fast, steady travel. Air-operated controls make steering easy and assure precise load control.

CONVERTIBLE TO OTHER BOOMS

Easy, on-the-spot convertibility to shovel or dragline operations. Road building and maintenance—dozens of other earthmoving jobs are possible with the same basic machine. No need to purchase two units when one versatile Manitowoc will do all the jobs!

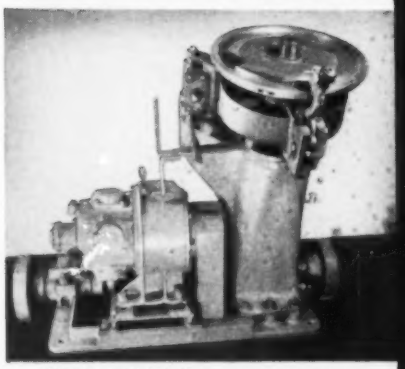
Look into all of Manitowoc's many exclusive advantages before selecting your next log loader. A call to your Manitowoc representative will bring full information and specifications.

MANITOWOC ENGINEERING CORP.
MANITOWOC, WIS.

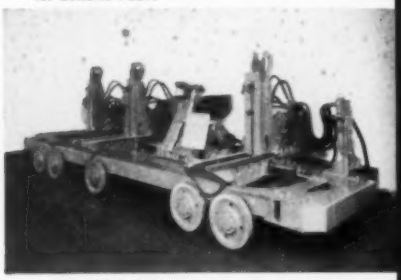


MANITOWOC
SHOVELS 1-5½ YD. Speed Crane CRANES 20-100 TON

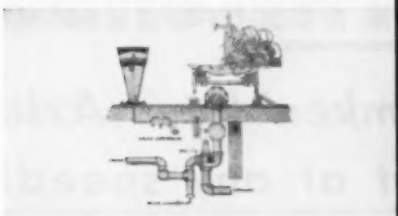
New Filer & Stowell Head Rig Machinery



AIR MOTOR SET WORKS — *Now preferred as the most accurate setting and fastest receding set works. Rugged, simple construction eliminates costly repair. Easy to convert present set works to Filer & Stowell Air Motor Drive Set works. Write for bulletin #301.*



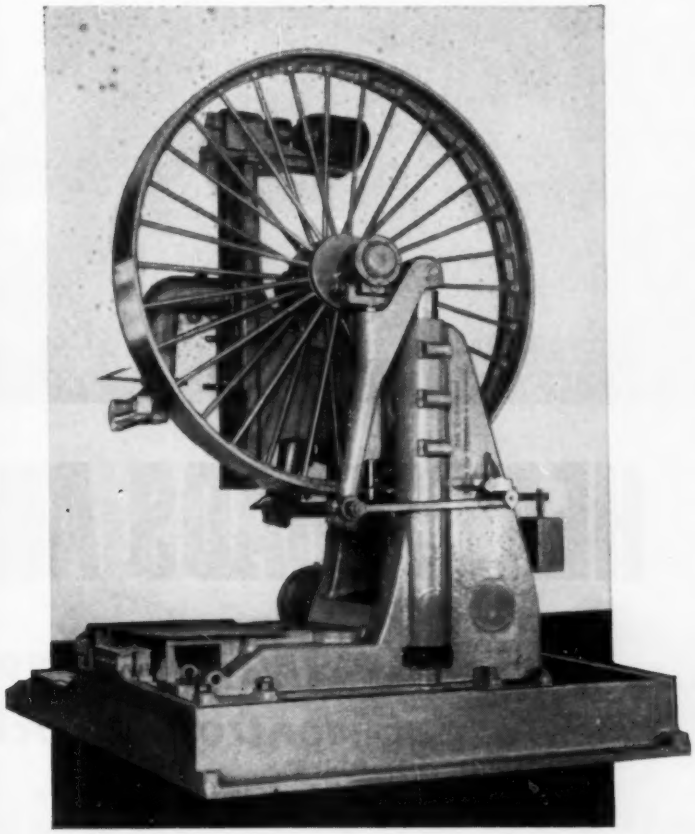
AIR DOG CARRIAGES — Only Filer & Stowell Air Dog Carriages have the "Dual Movement", which eliminates miscutting by pulling the dogged logs back firmly against the head blocks. No faster dogging mechanism exists than Filer & Stowell inside the knee *Air Dogs* with top and center teeth.



SHOT GUN CARRIAGE FEEDS — Proven on more installations to be the *fastest and least costly drive* for sawmill carriages to get more lines per minute. Equipped with all the latest safety devices, these guns may be powered by steam or air. Find why smart sawmill operators are going back to this time proven method of driving Log Carriages. Write for Bulletin #303.

Now . . . increase production of better lumber at lowest cost. Filer & Stowell brings you the most accurate and durable Head Rig Equipment available, with the greatest capacity for more lines per minute.

To eliminate losses from "downtime", the *headache* of all mill men, Filer & Stowell *Head Rig* Machinery is recommended *the world over.*



BAND MILLS — Only Filer & Stowell Band Mills have *all* the features needed to fulfill the desire of sawmill operators for the *most sensitive and durable* Band Mills. Ask for bulletin #300.

World's largest builders of sawmill machinery since 1856

THE FILER & STOWELL CO.

147 E. Bocher Street • Milwaukee 7, Wisconsin

HEAVY LOADS ARE PAYLOADS

...and exclusive Timken® Inter-Axle cab controlled lockout at any speed!

Every heavy trucker has *two* big problems to lick. First, to deliver *more payload* faster. Second, to get the *most service* out of his equipment...with less maintenance costs, less downtime.

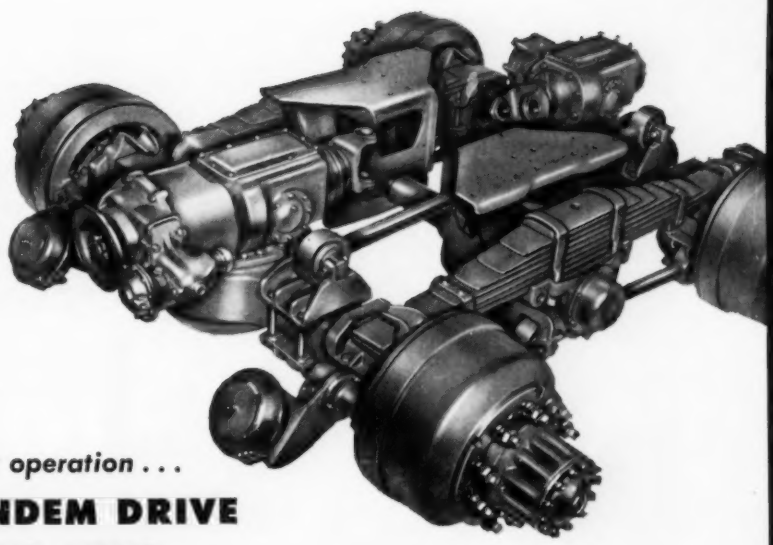
Timken-Detroit® has spent 37 years developing the most helpful answer to heavy hauling! The TDA Tandem Drive Rear Axle Unit! The lightest, strongest, most serviceable unit of its kind ever produced.

Engineering is the keynote of TDA Tandem superiority. Unlike ordinary tandems, in TDA Straight Line Drive, propeller shafts form an absolutely straight line from the forward rear axle back to the rearmost axle. This permits smoother transmission of power, no noisy *around the corner operation.*

Other TDA Tandem design advantages give you longer trouble-free service, quieter, more economical performance, bigger savings on man and equipment time. Maintenance is easier, too. TDA design allows almost complete interchangeability of parts between four and six-wheelers. Solid benefits explain why TDA is the choice of manufacturers and operators everywhere.

How TDA Inter-Axle Differential cuts truck and tire wear! With cab-controlled lockout!

When tandem tires are mismatched...or when tandem trucks are going over rough grades...one set of wheels must turn faster than the other or be dragged. TDA Inter-Axle Differential permits either wheel to do this when necessary. Also, with TDA, the driver can, when necessary, lock out the differential and obtain a straight-through drive in mud or sand.



THREE TYPES: Hypoid-helical double-reduction, optional inter-axle differential. Worm drive, without inter-axle differential.

For six-wheeler operation . . .

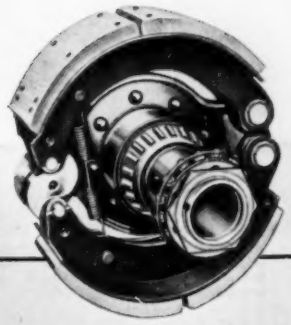
THE TDA® TANDEM DRIVE REAR AXLE UNIT

Now—the *world's finest* tandem drive rear unit for heavy-duty motor trucks!

And with these features, developed, introduced and pioneered by TDA: (1) Available in 3 types of final drives and 3 capacities. (2) Top-mounted straight-line final drive eliminates propeller shaft angularity. (3) Optional inter-axle differential . . . spur gear design, cab-controlled power-lockout. (4) Torsion flow axle shafts . . . guaranteed for 100,000 miles or three years, whichever occurs first. (5) Hot forged steel axle housing . . . guaranteed for the life of the vehicle. (6) Unit-mounted "P" series power brakes . . . for longer life, greater economy and efficiency. (7) Cradle ride spring suspension and paralleled torque rod system . . . maintain correct alignment and weight distribution regardless of driving and braking conditions. (8) Exclusive two-piece trunnion tube bracket speed servicing. (9) Removable torque rod and spring guide brackets . . . for positive alignment, easier replacement. (10) Rubber torque rod bushings and rubber spring seat bushings . . . eliminate metal-to-metal contact, require no lubrication.

WITH TDA® TANDEMS

Differential that permits



TIMKEN Detroit AXLES

TIMKEN-DETROIT AXLE DIVISION
ROCKWELL SPRING AND AXLE COMPANY
DETROIT 32, MICHIGAN

The Accepted TDA Standard
TRADE MARK REGISTERED

World's Largest Manufacturer of Axles for Trucks, Buses and Trailers

Plants at: Detroit, Michigan • Oshkosh, Wisconsin • Utica, New York • Ashtabula, Kenton and Newark, Ohio New Castle, Pennsylvania

ONLY TDA BRAKES give all these tested advantages!

- Brake shoes made of steel save up to 40 pounds per axle . . . give strong braking action with no distortion.
- Patented liner shape—thickest where wear is greatest.
- Liners riveted on—no chance of movement on shoe.
- Liners circle-ground to cover all efficient braking area of shoe.
- Rustproofed anchor pins locked in. Ends of pin sealed against foreign matter.
- First with self-aligning camshaft housings.
- Cam rollers heat-treated to roll smoother, wear longer.
- First with all-Nylon camshaft bushings.
- Compare similar products part for part and prove to yourself that TDA brakes incorporate the finest quality materials, skilled workmanship and advanced design.

HOMELITE

5-20 CHAIN SAW

It's NEW... It's alive with power

5 HP—20 POUNDS

Never before has there been a chain saw with so much power per pound as the new Homelite Model 5-20. It has 5 big horsepower for faster cutting . . . a light, light 20 pounds for easy operation. What's more, it is the only chain saw that gives you a choice of attachments to do many different cutting chores easier.

The new Homelite Model 5-20 is precision built for quick starting, dependable performance, and low, low maintenance. Cuts in any position . . . it saves both time and money . . . brings bigger profits to woodcutting or clearing operations. Write for complete details or see your Homelite dealer.

See your dealer for details on the Homelite TIME PAYMENT PLAN

Packed with power, the new Homelite Model 5-20 Chain Saw brings down big trees six feet in diameter, cuts through 20" trees in 20 seconds without forcing or jamming. Anyone can operate it . . . no experience necessary.

HOMELITE

4801 RIVERDALE AVENUE • PORT CHESTER, NEW YORK

A DIVISION OF TEXTRON AMERICAN INC.

Manufacturers of Carryable Chain Saws • Pumps Generators • Blowers

Interchangeable Blades add versatility to the new Homelite 5-20 Chain Saw. For felling, bucking, limbing or plunge cutting, there's a hard track blade for every requirement. Straight blades available from 14" to 60", bow saws 14" and 18".

Bucking is easier on man and saw when a Homelite 5-20 goes to work. Takes less time than ever before. The 5-20 stands up under the grind on any job . . . job after job.

Underbucking takes less effort and is just as simple as bucking. The 5-20 is easy to handle upside down or in any position . . . and there's no loss of power.

Do you save money when you by-pass your distributor?

Offhand . . . you might say you save money when you buy direct from manufacturers.

Experienced purchasing men would tell you that this kind of "bargain" is heavily booby-trapped, that low prices at the expense of your local distributor are often very costly to the buyer.

Sure, it's great at first . . . buying major items direct from the maker. But direct buying has a way of snowballing . . . the buyer finds himself in a widening spiral that includes the direct buying of more and more items . . . and then they're anything but bargains. For the savings effected by direct buying are more than swallowed up by extra man-hours needed to handle the volume of paper work it entails, to say nothing of extra shipping costs and warehousing expenses. Add to that the loss of the competent on-the-spot advisory service your local distributor gives you, and you'll agree that it would take far more than the modest saving you'd realize to compensate for the total cost of such purchasing.

We are convinced that it is advantageous to *both* the buyer and seller to have products go through a distributor. By minimizing the manufacturer's sales and distribution costs, by providing a "department-store for industry" to supply *all* purchasers, by giving services that only a local organization can provide efficiently, we are convinced that today's distribution pattern—from maker to local distributor to user—is the most effective and economical it is possible to devise.

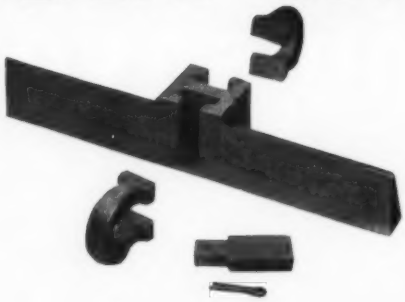
2594

A PRODUCT OF THE COLORADO FUEL AND IRON CORPORATION

MOLINE FLIGHT CONVEYORS

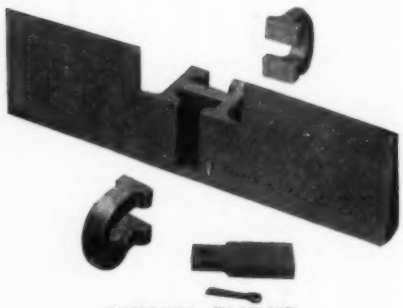
for **MILL**
REFUSE
HOG
FUEL
CHIPS

Moline's Pangborn flights were developed primarily to provide a less costly, more efficient method of handling lumber mill, saw mill and pulp mill refuse. The flight consists of an arm or body, provided with a "throat" section having two thick walled pockets—two half or "loop" links with shouldered ends that fit into the pockets of the throat—a key that hold the loop links in place and a cotter pin that holds the key in position. The design of these flights permits long link conveyor chain to be connected into and supported from the flights—rather than requiring the flight to be fastened on the chain—consequently, they scrape cleaner than other types of conveyors, provide greater capacity, and avoid any tendency to "ride over" the material.



STANDARD FLIGHT

"Standard" type flights are intended for average operations handling moderate loadings, either horizontally or on inclines up to 30° or 35°. High Faced or "Special" Flights provide about 50% greater pushing area and are used for heavy loadings, or for operation at inclines up to 55°.



SPECIAL FLIGHT

Moline Flight Conveyors, embodying all the long-wearing superiority of Moline Malloy Chain, are the logical first choice for economy and efficiency. They are especially desirable on conveyors having extremely long centers.

The excellence of Malloy Chain has been proved in use. We have testimony that it has outworn two ordinary chains on a main burner conveyor, operating the equivalent of 24 years of eight hours' service per day. Moline Malloy links have approximately 20% greater cross-sectional area than ordinary round links, and full contact at the joint eliminates premature wear. Malloy Chain will not stretch out of pitch. Thus it continues to fit sprocket teeth properly, resulting in smooth operation and minimum friction. Because malleable chains and steel linings wear well when used together, Moline Chains and Flights are easy on conveyor linings.

We Manufacture a Complete Line of

Detachable Transfer Chains
Riveted Combination Chains
Riveted Transfer Chains
Riveted Refuse Chains
(Malloy) Long Link Conveyor Chains
Conveyor Flights
Roller Top Transfer Chains

We Are Manufacturers of

PROMAL CHAIN

CONTACT THESE DEALERS AND DISTRIBUTORS FOR SALES AND SERVICE

J. W. Minder Chain & Gear Co. — 307 S. E. Hawthorne Blvd., Portland, Oregon—EMpire 1131; 6011 So. Central Ave., Los Angeles 1, Calif.—ADams 3-7221

Charles A. Fowler Co., San Francisco 3, Calif., 979 Bryant St.

Hudson Machinery Co., Tacoma, Wash., 668 East 11th Street, MAin 2617

Chain Gear, Inc., Seattle, Wash., 822 First Ave. So., MAin 7000

Industrial Machinery & Supply Co., Box 775, La Grande, Ore., Phone 10071

Electric Steel Foundry Co., Seattle, Wash.—EL 4161; Spokane, Wash—FA 4507; Eugene, Ore.—Phone 4-6171; Portland, Ore.—AT 2141; Medford, Ore.—Phone 2-2281

Fisher Bros. Company, Astoria, Oregon, Phone 2750

Longview Equipment Co., 1005 15th Ave., Longview, Wash., Phone 5605

Industrial Steel & Supply Co., North Bend, Oregon, Phone 53821

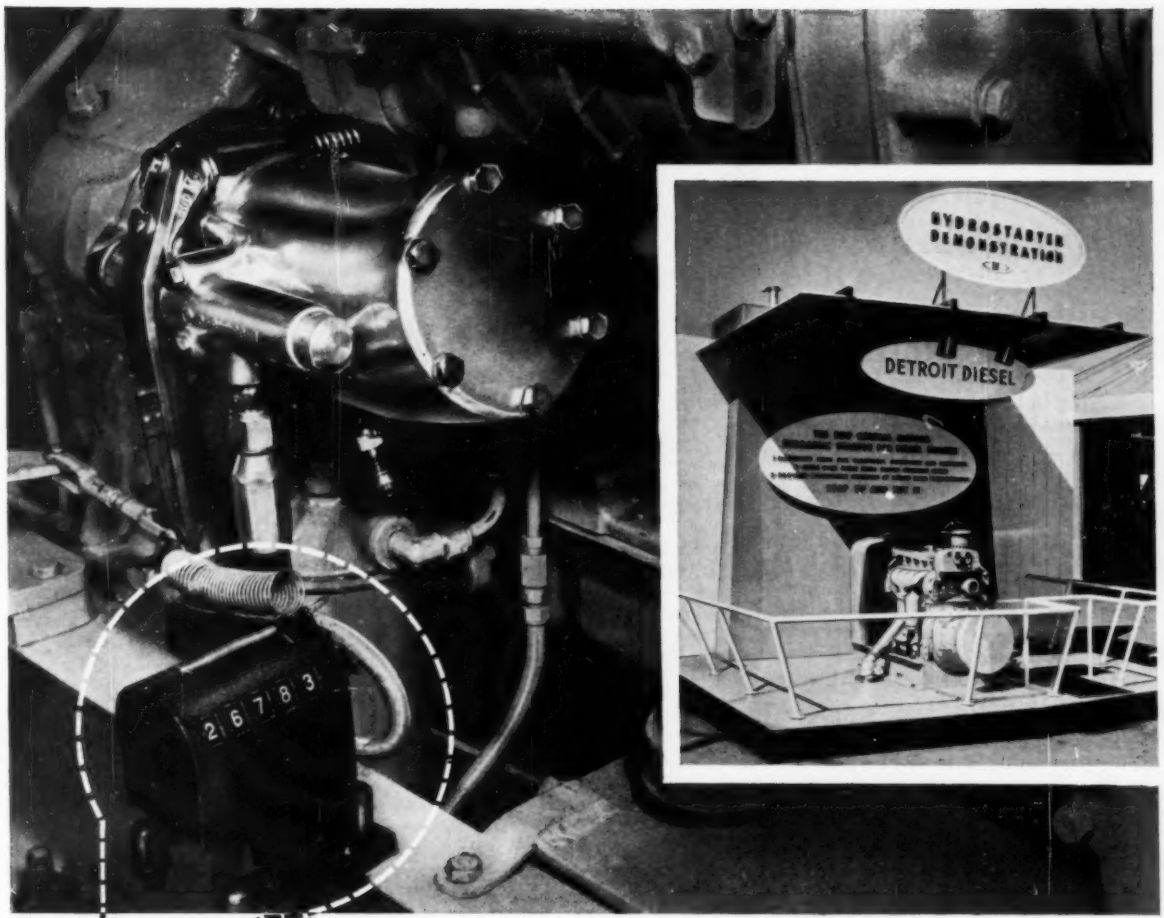
Pacific Logging & Mill Supply Co., Box 323, Grants Pass, Ore., Phone 4071

Canadian Distributors:

Western Equipment Ltd., 102 Main St., Vancouver, B.C., Phone TAtlow 2331; 2003 Government St., Victoria, B.C., Phone Garden 1413

MAKING MALLEABLE CHAINS FOR 60 YEARS

MOLINE MALLEABLE IRON CO. ST. CHARLES ILLINOIS



26,783 Starts in 26 days at GM Powerama!

HERE'S PROOF of the rugged dependability of a General Motors Hydrostarter—the new, low-cost hydraulic starting system now available on all GM Detroit Diesel engines:

> On public demonstration at the GM Powerama, a Hydrostarter started a GM Detroit Diesel 26,783 times in 26 days—an average of more than 1,000 starts per 12-hour day—more than 1 start every minute.

A Hydrostarter gets a GM Detroit Diesel up to starting speeds 80% faster than regular starting systems—costs less to maintain than electric starters—sells for a far lower price than any other non-electric Diesel starter.

And it gives you fast, sure starts—even at sub-zero temperatures, or when your equipment has been standing idle for long periods of time.

Call your GM Diesel Distributor for full details on the GM Hydrostarter—or write direct for more information.

DETROIT DIESEL

Engine Division of General Motors

Single Engines . . . 30 to 300 H.P.
Multiple Units . . . Up to 893 H.P.

America's Largest Builder of Diesel Engines

THE Lumberman

presents as Tall Timber . . .

Loran L. Stewart

LORAN L. (STUB) STEWART

GREAT GRANDFATHER CORNELIUS HILLS has passed on to Great Grandson Loran L. (Stub) Stewart an amazing amount of the same restless, surging energy which drove him across the plains to Oregon in 1847.

In 108 history-crowded years the Hills strain has flourished and prospered. It has given its name to Hills Creek in Lane county where Cornelius settled and reared a family after going back over the Oregon Trail in 1851 to claim a bride. It has given its name to Jasper, a thriving Lane county lumber town, where Loran's grandfather Jasper Hills was born in 1854, the first white child born in that part of the Oregon country.

Loran (Stub) Stewart today is carrying on the tradition of this remarkable family, pioneering in new fields, building his county, accepting his full load of public service. Magnetic, blessed with a mind as sharp as a steel trap and a personality that attracts friends, Stub already in 44 years has carved out a memorable career in industry and public service.

Timber, logs and sawmilling is almost hereditary in the family, which saw Cornelius in 1851 whipsawing lumber to build his home and farm buildings. Growing up in a rich timber country, it was only natural that Grandfather Jasper Hills should take to loggings. He was a famed riverman on the Willamette and McKenzie, logging in the winter and driving logs to Eugene on the spring freshets.

Stub's father, LaSells Stewart, retired a few years ago after a lifetime spent in sawmilling in Lane county. Stub, along with his brother, Faye, and brother-in-law, Larry Chapman, bought out Father LaSells and partner William Garoutte's Bohemia Lumber Sales Company at Culp Creek, east of Cottage Grove, a few years ago to maintain the family's 108 consecutive years in some phase of the logging and lumber industry.

WITH SAWDUST FLOWING freely in his veins, it is only natural that Stub Stewart should select forestry for his life's career. After graduating from Cottage Grove high school he earned a degree in forestry at Oregon State College in 1932. A ten-year tour of duty with the U. S. Forest Service in eastern Oregon readied him for more important duties at Region Six headquarters in Portland, but his restless energy needed larger challenges.

World War II was ready-made for his adventuresome spirit and in two years of active campaigning in the China-Burma-India theatre he rose from first lieutenant to lieutenant-colonel, paralleling the brillian military career of brother Faye.

Back from the wars, Stub selected private industry for his next target, soon was selected by Pope and Talbot to build their new sawmill at Oakridge. By 1951 he was ready to assume a dual role, that of industrialist and public servant. Lane county sent him to the legislature that year. Despite the fact that demands on his time were great, because he joined with brother Faye and Larry Chapman in taking over the Bohemia Lumber Sales sawmilling enterprise, he made a fine record as a freshman legislator.

Returned in the 1953 session, he was named chairman of the vitally important forestry and mining committee and carried the brunt of work in the continuing revision of laws affecting those industries. In the 1955 session he was entrusted with the toughest of all assignments, the chairmanship of the taxation committee, a job he performed with credit, intelligence and natural leadership.

If he is interested, there are many of his friends who see for this outstanding young Oregonian more important posts in public life, even the governorship. He has that rare gift of never seeming to be busy, yet accomplishing all the work at hand, no matter how voluminous, and throughout never losing his finely tuned sense of humor.

HIS CAREER in industry seems never to have suffered by virtue of the long months each year devoted to the welfare of his state. The Bohemia Lumber Company under his presidency has grown and prospered. The sawmill has been modernized into one of the finer medium sized mills in the region. A plywood division, the Cottage Grove Plywood Company, has been built. Utilization is pursued to its maximum possibility with most of the leftover wood being converted into highgrade pulp chips and shipped to nearby pulp mills.

He is industry-minded, having been honored by election to the board of directors of both the West Coast Lumbermen's Association and the Industrial Forestry Association. Governor Paul Patterson called on him to serve as the industry representative for Oregon on the joint governors' fact finding committee of Washington and Oregon which successfully concluded the costly three month's industry-wide strike in the summer of 1954. This is an assignment which a more timid soul would have ducked, especially with a public career just beginning, but Stub Stewart is not "gutless."

You can't be around Stub Stewart long before you sense his intense earnestness. He is a human dynamo. New frontiers have as much challenge for him today as the magnetic pull of the Oregon country must have had on his great grandfather Cornelius.

As much as any other young lumberman active in the west today, Stub Stewart epitomizes the new look in this burgeoning industry. He quickly saw the possibilities in plywood just before that industry started expanding. He realizes the need for the highest possible utilization, and the pulp chipping department is just one step in that direction. It is a safe bet that he has his eyes open to the long-range possibilities for extraction of chemicals and other products from bark and leftover woods.

Stub Stewart is a Twentieth Century pioneer who is mighty handy to have around at a tough legislative session, an industry corn-husking match or at a social gathering like the annual Hart Mountain trek which he headed up in 1955 as Chief White Tail.

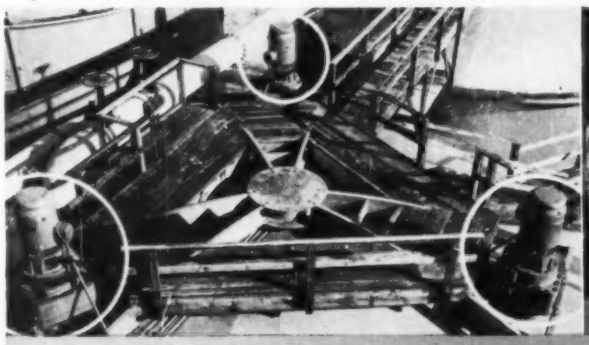
Sign Up Now for Short Courses

• Two important short courses are being offered in March at the University of Washington, Seattle.

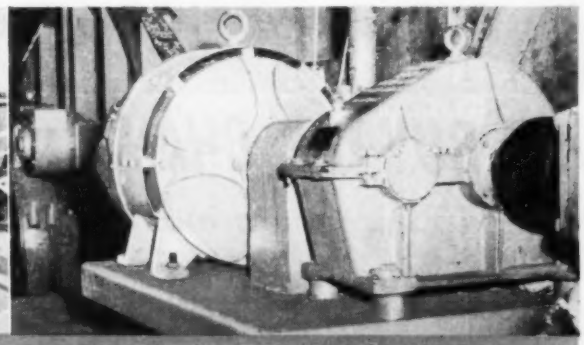
A one-week course in practical forest photogrammetry is set for Mar. 12-16. It is primarily for private and state foresters; attendance is limited. Companies interest in having men learn how to use basic equipment, interpret photos and carry on field work should contact Dr. J. C. H. Robertson immediately, as registration is limited. Several outstanding foresters in this field will comprise the "faculty." Charge will be nominal.

Insects and diseases will be covered in another short course planned for the third week in March. The regional pest action committee is cooperating. Write Prof. C. Frank Brockman at the U. of W.

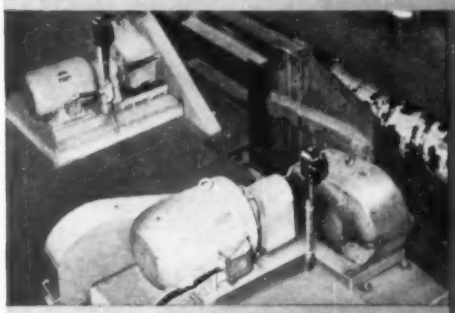
Dean G. D. Marckworth asks that interested parties and companies send in registrations right away, as the number in attendance will be limited.



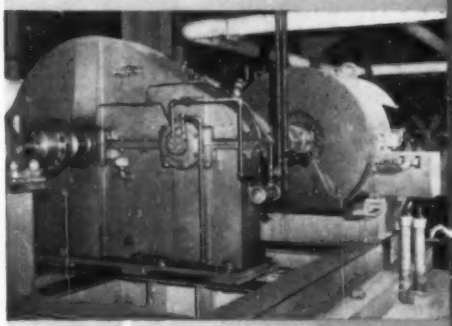
Stock blending chests showing some of the 10 Western Gear DV-56 agitator drive units.



One of 11 reliable and rugged Western Gear S-57 units driving Impco Washers.



Western Gear unit driving feed conveyor and spike roll drum in wood room.



600 HP main pulp machine drive operating at 850 RPM through Western Gear 2:1 speed reducer.

...from log haul drive to finishing room *completely* WESTERN GEARed!

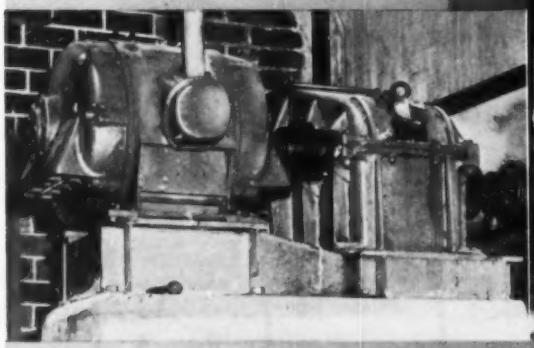
Because of its remote Alaska location, Ketchikan Pulp Company's new mill demanded long life and trouble-free operation from its gear drive installations. This modern mill was specifically designed to avoid breakdown or failure which would disrupt production, so Western Gear drives, 138 in all, were specified throughout the mill. These range from the integrated 150 HP, two-speed hydraulic coupling-equipped log haul drive, reported the largest ever built, to the finishing room.

Here is convincing proof of faith in Western Gear's reputation for product reliability and ruggedness. Convincing proof, too, of confidence in special ability gained in 67 years of designing and manufacturing gear drives and machinery for the lumber and pulp and paper industries. Take advantage of this unique experience. Ask for recommendations on modernization of outmoded layouts or installation of new units. Write today, outlining your requirements. There's no obligation. Address General Offices, Western Gear Corporation, P. O. Box 182, Lynwood, California

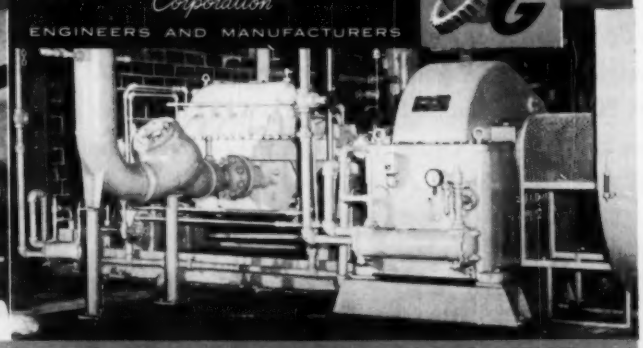
Plants at Lynwood, Pasadena, Belmont, San Francisco (Calif.), Seattle and Houston — Representatives in principal cities

"The difference is reliability" • Since 1888

WESTERN GEAR Corporation
ENGINEERS AND MANUFACTURERS
WG
5584



Western Gear Model D-58 speed reducer driving Impco digestor dump agitator through 11.65:1 reduction. This is one of four similar installations.



Hydraulic barker pump at 4020 RPM driven by 1250 HP 1200 RPM synchronous motor through Western Gear high speed unit. Installation allows use of slower speed motor with pump operating at optimum speed.

HERE ARE 3 CHAINS YOU'VE BEEN WAITING FOR

NOW! BUY L-M CHAIN TO FIT YOUR SPECIFIC JOB

"— a ripping chain makes a poor crosscutting chain and a crosscutting chain makes a poor ripping chain —"

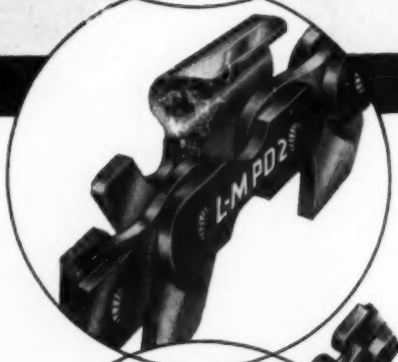
AN EXCLUSIVE RIPPING CHAIN

L-M PD 1

A "Tuffee" saw chain designed by L-M exclusively for rip-sawing and splitting, in the pond or on the deck. Don't ask one saw chain to do three jobs—when the job is rip-sawing, demand the L-M PD 1. It will save you money in operating time and maintenance. Order your L-M PD 1 rip-sawing chain now. Or, WRITE TODAY for brochure on the L-M PD 1 Saw Chain.

AN EXCLUSIVE CROSS-CUT CHAIN

L-M PD 2



A rugged, volume-producing saw chain *specifically designed* to meet *and solve* the problems of cross-cut sawing. You waste time and money using the *wrong chain*—cross-cut *right* with the L-M PD 2 Saw Chain! Order your L-M PD 2 Cross-Cut Saw Chain NOW—or WRITE TODAY for brochure.

AN EXCLUSIVE CHAIN FOR CORE VENEER & FISHTAIL

L-M PD2-4

Designed especially for smooth cutting—WILL NOT TEAR core veneer and fishtail stock. Now you can get a SMOOTH CUT AT TOP SPEED with the L-M PD 2-4 Saw Chain. Select the right chain for the job and save yourself time and money. Order your L-M PD 2-4 Saw Chain NOW—or WRITE TODAY for brochure.

All three chains available in 100-foot L-M Saw Chain reels—with the big blue and yellow sign—or in cut lengths to fit your special requirements.

✓Check These Exclusive L-M Features:

L-M
THE HOUSE OF CHAIN SAWS
EQUIPMENT COMPANY
Electric Air, Hydraulic Controlled
Standard and Custom-built Models
Pond, Deck and Log Splitting Saws
Portable Electric and Gasoline Powered Chain Saws
L-M Saw Chain Bars
L-M Saw Chain

.090" THICKNESS OF STOCK equal to thickness of rail, assuring uniform wear and stability of chain.

REAMED HOLES FOR ALL DRIVE LINKS AND HAMMERED RIVETS—minimize chain stretch and maintain constant "pitch"

MORE THOROUGH GROOVE CLEANING through exclusive design shape to bottom of drive link.

INCREASED BEARING AREA on the bar for longer bar and chain life. Reduces router heel wear.

EASIER, FASTER CHIP REMOVAL through greater clearance designed into L-M chain teeth.

8705 S. E. 13th Avenue P. O. Box 4681
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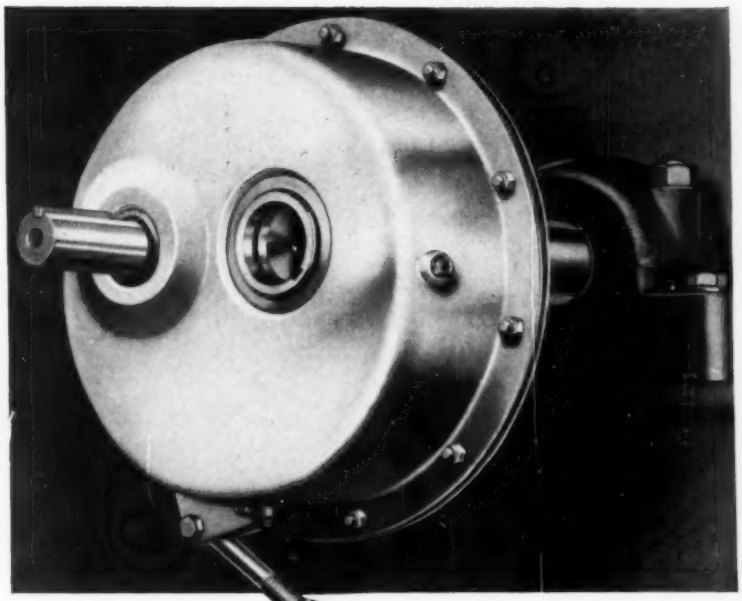


SIX SIZES

- 1/2 to 30 hp
- Single or double reduction
- Wide output speed range—420 to 10 rpm

FALK

ALL-STEEL

Shaft Mounted Drives—

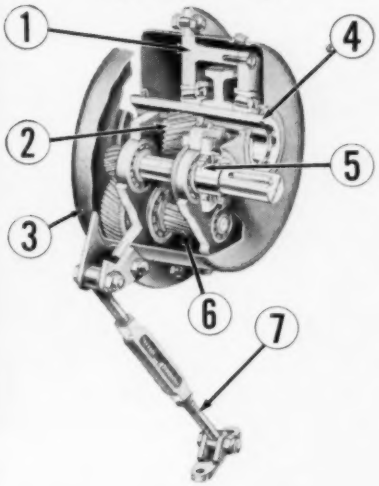
simple-compact-rugged-efficient

Created specifically for the vast number of applications demanding a sturdy and compact speed-reducing unit for direct mounting on the driven shaft, the new Falk all-steel Shaft Mounted Drive is built to give long service life at substantial savings of space, time, power and maintenance costs!

This efficient helical-gear drive, latest in the unmatched list of Falk precision-gearing achievements is an ingenious modification of the time-tested Falk Motoreducer design which has held, for more than 20 years, recognized leadership in this branch of highest-quality power transmission . . . It complements and completes the world-famous Falk line of reduction units covering the entire range of industrial applications.

Investigate the Falk all-steel Shaft Mounted Drive. Write to Department 247 for engineering bulletin, including selection and dimension details.

These famous FALK "In-built" factors *mean long life and dependability...*



1 **All-steel Frame,** with more than double the rigidity of iron, supports all rotating elements.

2 **Precision Helical Gears,** designed and machined by Falk, rated to AGMA standards.

3 **Pressed Steel Housings,** whose sole function is to keep oil in, dirt out; easily removed for gear inspection without dismounting unit.

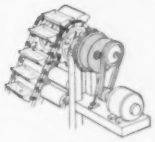
4 **Through Hollow Shaft** with counter bore provides for easiest installation or removal from driven machine shaft extensions.

5 **Backstop** can be furnished with the unit or added later for positive prevention of reverse rotation.

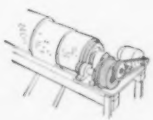
6 **Positive Lubrication,** continuous direct dip of revolving elements at all speeds.

7 **Tie Rod** and turnbuckle serve as anchor and facilitate V-belt or chain adjustment.

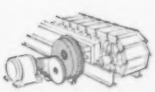
A FEW TYPICAL APPLICATIONS



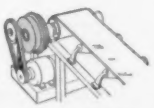
BUCKET ELEVATOR



SAND CLASSIFIER



APRON FEEDER



BELT CONVEYOR

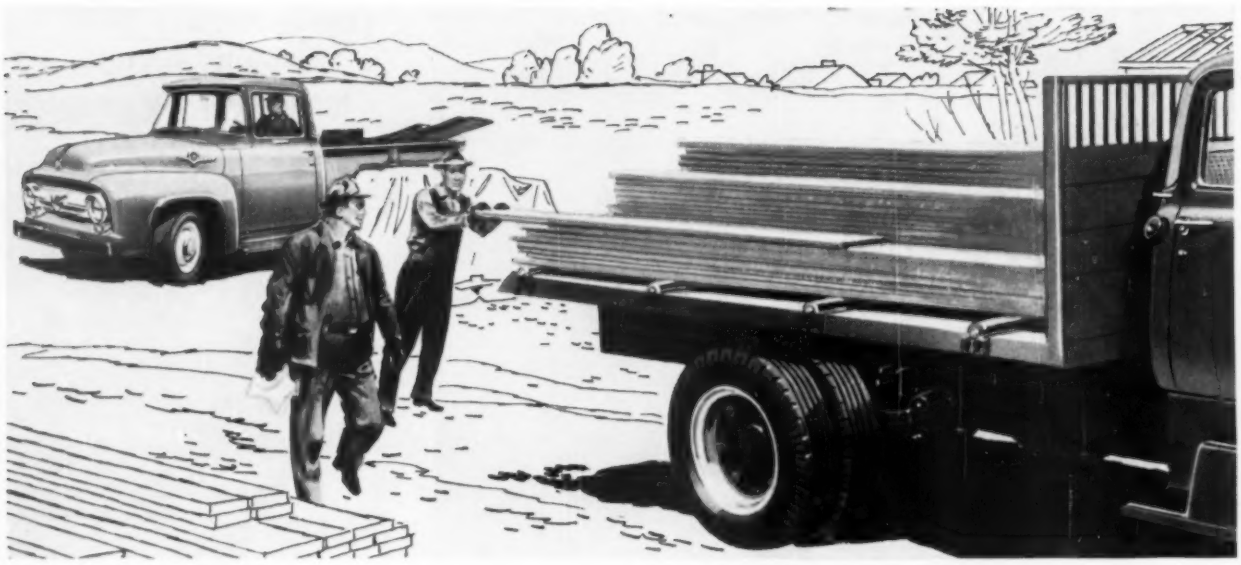
THE FALK CORPORATION, Milwaukee 8, Wisconsin

MANUFACTURERS OF

- Motoreducers
- Speed Reducers
- Flexible Couplings
- Shaft Mounted Drives
- High Speed Drives
- Special Gear Drives
- Single Helical Gears
- Herringbone Gears
- Marine Drives
- Steel Castings
- Weldments
- Contract Machining

FALK

. . . a good name in industry



F-100—8-ft. Pickup—GVW 5,000 lbs.

C-750—GVW 21,000 lbs.; GCW 42,000 lbs.

Ford saves you money with

YOU SAVE ON PARTS REPLACEMENTS—*add miles to engine life!*

YOU SAVE ON SHOP LABOR—*cut maintenance to the bone!*

YOU SAVE ON YOUR ORIGINAL INVESTMENT—*get more work done per truck!*

Ford Trucks for '56 save you money right from the start. And, they keep on saving with their extra-sturdy, long-life engine design.

For instance . . . Ford Engineers have now introduced into all heavy-duty engines the greatest valve advancements ever. As an example, see the exhaust valve in diagram on right page. The valve stem is hollow and partially filled with powdered sodium. When the sodium gets hot, it *turns into a liquid.* As it moves up and down, it carries heat away from valve head—*allows it to operate up to 225° cooler!* Result: a cleaner-running, more burn-free, longer-lived valve face.

Ford's long-lasting engine design pays off for you in every way. You save money on parts replacements such as piston rings and bearings. You save on shop labor—extend time between preventive maintenance jobs like valve adjustments, valve grindings, compression tests, ring jobs and the like.

And you can save on driver costs if you can keep trucks out of the shop and on the road. Yes, you save in every way when you get more work done per truck!

There's a Ford Truck for every trucking job. Before you buy your next truck, Test Drive a Ford Economy Truck.

FORD TRUCKS LAST LONGER

Certified by independent insurance actuaries for the ninth consecutive year! Studies of over 10,068,600 current license registrations show that Ford Trucks last up to 9.9% longer than any of the other 4 leading truck makes!

F-900—GVW 29,000 lbs.; GCW 60,000 lbs.

new long-life engine design

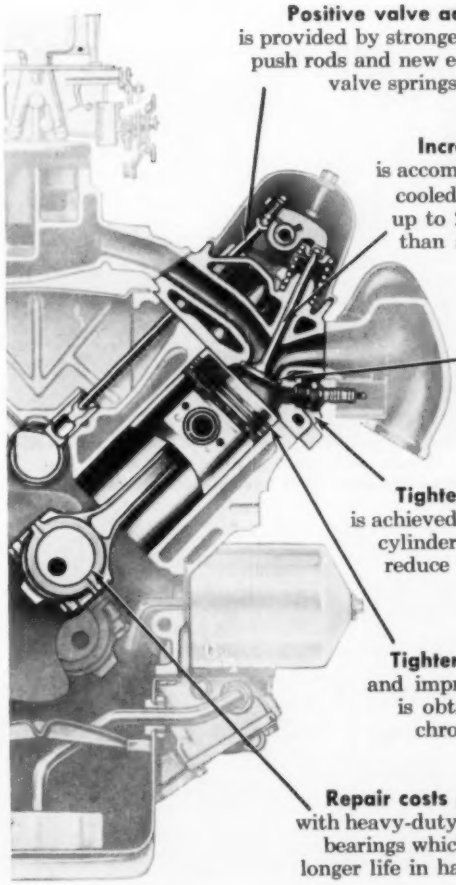
Agile heavy-duty "Snub Nose" a real time saver—New Ford C-750

● New power and maneuverability of this Ford Cab Forward BIG JOB cuts hauling time on every run—makes giant cargos seem lightweight. You have a choice of two gas-saving Short Stroke engines. Either the 175-h.p. *Cargo King* Y-8 or, the 186-h.p. *Cargo King* Special Y-8.

You have new engine advancements for longer life (some explained and illustrated at the right).

New safer tubeless tires, 5-speed Synchro-Silent transmission and tachometer are standard equipment, at no extra cost. Power Steering and air-over-hydraulic brakes are available at extra cost.

New *Driverized* Cabs for driving comfort and convenience have *Lifeguard* Design safety features found in no other truck. Lifeguard steering wheel helps protect driver from steering column; Lifeguard door latches help keep doors from jarring open in case of accident.



Positive valve action is provided by stronger, tubular push rods and new equal-coil valve springs.

Increased valve life is accomplished with sodium-cooled exhaust valves—up to 225° cooler-running than solid-stem valves.

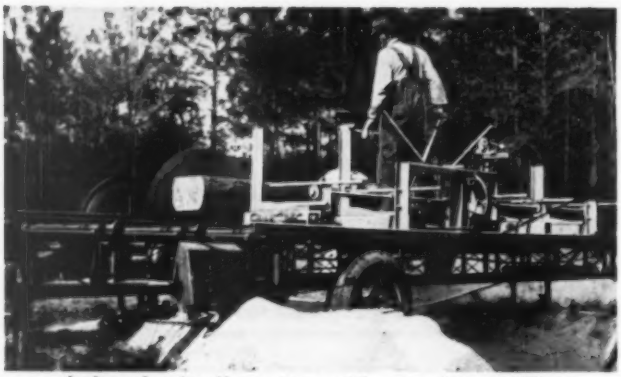
Longer valve and seat life are the result of solid tungsten-cobalt alloy facings and exhaust valve seat inserts.

Tighter valve closing is achieved with stress-relieved cylinder heads that help reduce valve distortion.

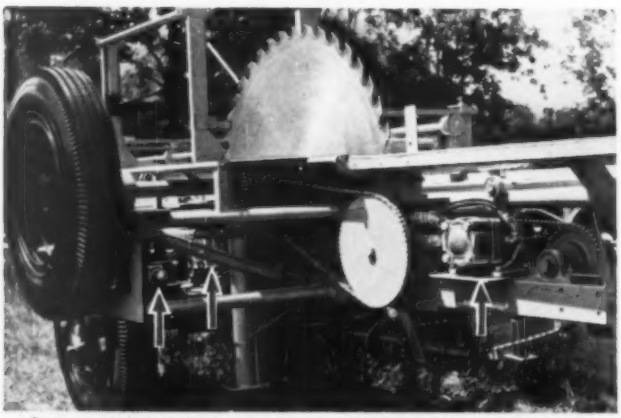
Tighter compression seal and improved ring durability is obtained with thicker chrome-plated rings.

Repair costs are lower with heavy-duty copper-lead bearings which provide longer life in hard service.

JACKSON LUMBER HARVESTER USES VICKERS® HYDRAULICS to Produce MORE BOARD FEET AT LOWER COST



Jackson Lumber Harvester provides complete mobility without dismantling and requires only one operator.



Arrows point to Vickers units on hydraulic feed works that practically doubles daily production over old style feed works.

The increased production and savings in cost being made by the new Jackson "Lumber Harvester" result primarily from the addition of a hydraulic feed works using Vickers equipment. A pump supplies oil under pressure to a hydraulic motor that drives the carriage cable drum. A valve controls the reversal which is accurate, quick and easy . . . does not fatigue the sawyer as his only physical effort is shifting the valve lever.

Jackson Lumber Harvester Company states: "By using your Vickers Hydraulic Units . . . we have a smoother operation, less down time and increased production with a minimum of maintenance."

The speed, versatility and dependability of Vickers Hydraulics make it particularly desirable on many types of logging, lumber and plywood machinery. Its use results in faster, lower cost operation, greatly decreased maintenance and minimum down time. For further information, ask for new Bulletin 55-67.

VICKERS INCORPORATED

DIVISION OF SPERRY RAND CORPORATION

1550 OAKMAN BLVD. • DETROIT 32, MICH.

Atlanta Office
1036 Peachtree St., N. E. • Atlanta, Georgia

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COMPLETE POWER UNITS AND WAREHOUSE STOCKS AT EL SEGUNDO AND SEATTLE

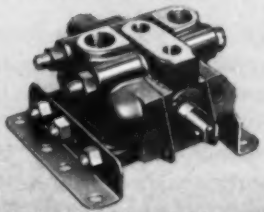
Application Engineering Offices: **CHICAGO • CINCINNATI • CLEVELAND • DETROIT • HOUSTON MINNEAPOLIS • NEW YORK AREA (Summit, N. J.) PHILADELPHIA AREA (Media) • PITTSBURGH AREA (Mt. Lebanon) • PORTLAND, ORE. • ROCHESTER ROCKFORD • SAN FRANCISCO AREA (Berkeley) ST. LOUIS • TULSA • WASHINGTON • WORCESTER IN CANADA: Vickers-Sperry of Canada, Ltd., Toronto**

Standard VICKERS units used on Jackson Lumber Harvester

Vane Type Pump has hydraulic balance and automatic wear compensation that assure high efficiency throughout a very long life.

Vane Type Motor has hydraulic balance. "Rocking Beam" construction and automatic wear compensation to assure high efficiency during long life.

Directional Control Valve provides accurate and smooth control; integral relief valve protects hydraulic system from overload damage.



7244

ENGINEERS AND BUILDERS OF OIL HYDRAULIC EQUIPMENT SINCE 1921

Rubber-tired speed

lowers your production costs ...logs marginal stands ...cuts equipment investment

Tournapull-Arch skids logs from stumps, hot or cold deck, or bunched piles. It requires no costly graded access roads . . . can travel trails too soft or rough for other types of haulers. Handy dozer blade may be used for decking, clearing landings, salvage and sanitation logging, pioneering and maintaining haul roads and plowing snow.

Shifting to a new scene of operation is no chore with Tournapull-Arch. Rubber-tired unit drives job-to-job under its own power at top speeds of 28 to 30 mph.

Speed has always been industry's answer to rising production costs. You know from experience that crawler-tractors, with their slow-working speeds, make long skids uneconomical.

Tournapull-Arch makes long skids practical and economical. It combines off-the-road advantages of a crawler with rubber-tired speed of a truck. It skids full turns at speeds up to 28 mph.

Big, low-pressure tires make high speeds possible over skidding roads. These broad, shock-absorbing tires iron out the bumps. Instead of lumbering along at 3 or 4 mph, you "run" at high speed.

Naturally, with their greater speeds, these units will deliver more board feet per shift. Frequently, Tournapull-Arch will be on its second or third trip while your crawler-arch is still on its first.

Speed, plus rubber-tired off-the-road mobility, lets you work stands at extreme ranges. You can reach further into the woods . . . open up those fringe areas you couldn't afford to touch when you had only track-type equipment available for skidding.

Drives job-to-job

Another advantage of tires is that Tournapull-Arch can move from one location to another under its own power as easily as a car. Twenty-five miles is less than an hour away.

By moving faster and working faster, Tournapull-Arch allows you to use *less* equipment to *get more work done*. You can retire some of your older crawlers and not bother to replace them. Your overall equipment investment . . . along with operating, lubrication, and maintenance costs . . . will be lower. Original price of D Tournapull-Arch is less than a crawler-arch team of comparable size.

It will pay to learn all about this new, *faster* way to skid logs. You can arrange for a demonstration. There's no obligation.

Tournapull—Trademark Reg. U.S. Pat. Off. A-719-L-b

FREE . . . A new 24-page book showing how you can skid logs at truck speeds over ordinary skid roads. To get your copy, simply fill out coupon. Mail today to LeTourneau-Westinghouse Company, Peoria, Illinois. No obligation.

Send to: LeTOURNEAU-WESTINGHOUSE COMPANY, Peoria, Ill.

Name ..... Title .....

Company .....

Street Address .....

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A-719-L-b

NOW...30 HP!
NEW FUEL ECONOMY
FASTER STARTING
STALL-PROOF IDLING

NEW SEA-HORSE 30

NINE GREAT MOTORS

*JAVELIN	30 hp	$582.00
*SEA-HORSE 30	30 hp	552.00
SEA-HORSE 30	30 hp	462.00
*SEA-HORSE 15	15 hp	452.00
SEA-HORSE 15	15 hp	362.00
SEA-HORSE 10	10 hp	321.00
SEA-HORSE 7½	7½ hp	241.00
SEA-HORSE 5½	5½ hp	216.00
SEA-HORSE 3	3 hp	146.00

*Electric Starting... Prices f.o.b. factory, subject to change... OBC certified brake hp at 4000 rpm (30's at 4500 rpm).

FOR 1956: Johnson presents NINE Sea-Horses... 3 to 30 hp! Featuring new fuel economy. Quicker, smoother starting than ever before. New Stall-Proof Idling. Electric and manual starting. Remote Control fittings for steering, shift, and throttle. *And traditional Johnson DEPENDABILITY.* All models are beautifully styled in Johnson's new Holiday Bronze and Spray White.

FREE! The new Sea-Horse Catalog gives the full story on all that's new for '56. New models, new features. New power and load-carrying ability. Write...

JOHNSON MOTORS, 6400 Pershing Road, Waukegan, Illinois
A DIVISION OF OUTBOARD, MARINE & MANUFACTURING COMPANY
In Canada: Manufactured by Johnson Motors, Peterborough

Johnson SEA-HORSES FOR DEPENDABILITY

ALL JOHNSON SEA-HORSES ARE PROTECTED AGAINST SALT WATER CORROSION—NO FLUSHING NECESSARY

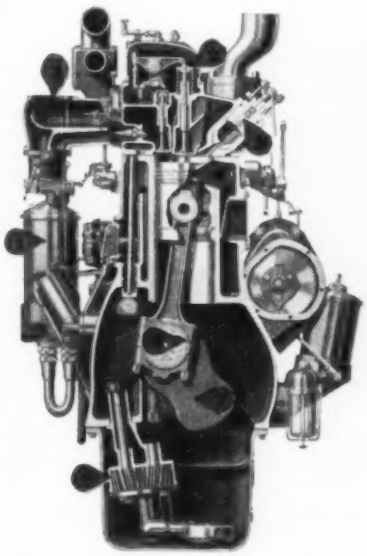
1 FULL FLOW OIL FILTER—Before oil goes under pressure to engine bearings, all harmful particles are removed by replaceable plastic-impregnated, full-flow filters.

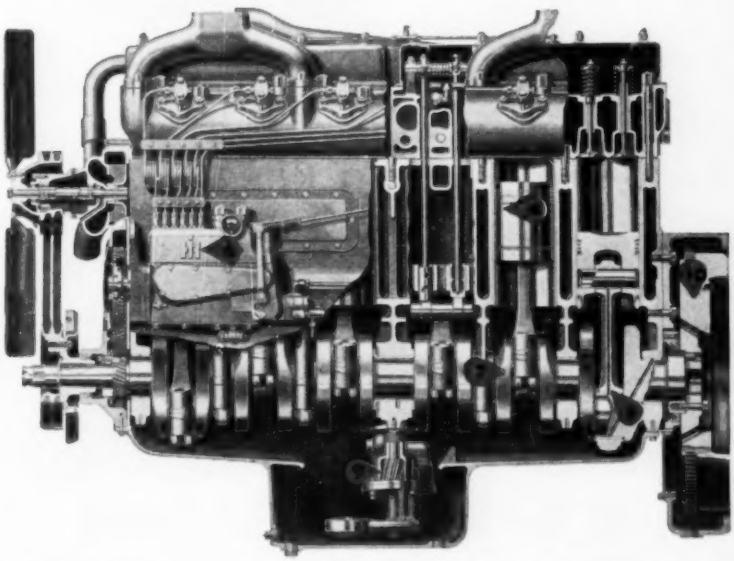
2 POSITIVE ROTATORS EXTEND VALVE LIFE. Exhaust valve rotators keep valves turning, at all engine speeds, distributing heat uniformly around the valves to keep deposits from building up on stems and seats, and also to prevent sticking, scuffing, and burning.

3 POSITIVE ALL-WEATHER STARTING. Seconds-fast, International Diesels start in coldest weather on exclusive gasoline starting system. Cylinders are pre-heat conditioned to give complete, clean combustion, instantly, on switching to operation on Diesel fuel.

4 ALUMINUM-ALLOY PISTONS have a thick crown at the top for rapid dissipation of excess heat direct to the cooling water. Hardened, replaceable, cylinder sleeves, three compression rings, with top ring chrome-plated, plus two oil control rings assure long-lasting, gas-tight seal for high compression ratios of over 15 to 1 . . . providing top fuel and oil economy.

5 SIMPLE, SINGLE-HOLE, INJECTION NOZZLE and pre-combustion chamber set at 45° angle for smooth, clean combustion of low grade No. 2 fuel oil under all engine speed and load conditions.





6 NEW IH INJECTION PUMP: Single plunger type on four-cylinder models, twin-plungers on six-cylinders . . . provide all cylinders equal amounts of fuel, precisely metered to load, whether for idling, maximum horsepower, or maximum torque under overload. New, harder injection plungers have up to four times longer life.

7 HEAVY-DUTY FORGED CRANKSHAFT with large diameter, induction-hardened journals provides long-lasting, wear-resistant bearing surfaces . . . rifle-drilled for full pressure lubrication . . . dynamically balanced for smooth operation.

8 REPLACEABLE TRI-METAL BEARINGS provide precision clearance for full-pressure lubrication and thousands of hours of heavy-duty work. Smooth electroplating of white alloy metal over copper-lead, precision bonded to a steel back, carries heavy loads with minimum friction.

9 FULL-PRESSURE LUBRICATION for long life. Big, gear-type pump delivers oil under controlled pressure through full-flow filters and rifle-drilled passages to main and connecting rod bearings, piston pins, camshaft, timing gears, and valve rocker arms.

10 HEAVY FLYWHEEL helps to maintain uniform speed under widely varying load conditions. Available to match standard makes of clutches, fluid couplings, and torque converters.

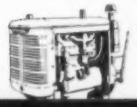
Hour after hour. . year after year

INTERNATIONAL ENGINES

. . . stay on the job with least upkeep

All International engines are built throughout to give you a full measure of power that stands up and stays on the job. They are precision-manufactured of thoroughly tested materials under continuous, quality-control inspection. Pressure lubrication through rifle-drilled crankshafts and internal passages assures trouble free performance. Inbuilt precision is fully protected from dirt and grit under the worst of job operating conditions by the best of fuel, oil, and air filters.

Heavy-duty radiators, power take-offs, and other factory-engineered power unit components are available to fit these long-life, money-saving engines to your job requirements. You can also get them as original equipment in most makes of construction machines. Call your nearest International Industrial Power Distributor or Power Unit Dealer for all the facts.



There's a size and type of International engine to fit your needs . . . from 16½ to over 200 hp.

INTERNATIONAL HARVESTER

INTERNATIONAL
INDUSTRIAL POWER

MAKES EVERY LOAD A PAYLOAD

Heavy Lifting

...at the Mill or in the Forest

Fast Traveling

...on Dirt Roads or Paved Highways

UNIT 357 MOBILE CRANE... equipped with either grapple, tongs, or sling . . . always rates high in logging operations. UNIT'S short turning radius for close quarter operations, together with speed and accuracy, make hoisting and swinging loads onto trucks or freight cars, easier and faster.

The Full Vision Cab gives the operator complete visibility in all directions. Convertible to clamshell, dragline, shovel, or trenchoe, the UNIT 357 is readily adaptable for maintenance, road-building, or other types of jobs. For log handling efficiency, investigate UNIT. Write for descriptive literature.

UNIT CRANE & SHOVEL CORPORATION
6615 WEST BURNHAM STREET • MILWAUKEE 14, WISCONSIN, U. S. A.

½ or ¾ YARD EXCAVATORS...CRANES UP TO 20 TONS CAPACITY
CRAWLER OR MOBILE MODELS . . . GASOLINE OR DIESEL

All Models Convertible to ALL Attachments!

TOM MURRAY, JR.
NEW PREXY

Tacoma Club Meets

• Tom Murray, Jr., West Fork Timber Co., Tacoma, Wash., is the new president of the Tacoma Lumbermen's Club, succeeding George A. Williams, Jr. Murray, whose election was announced at the club's 36th annual meeting Dec. 9, is also vice-president of the Pacific Logging Congress.

At the annual banquet, the club's Paul H. Johns, Jr. Memorial Awards were presented to two outstanding students of the College of Forestry, University of Washington, by Dean Gordon Marckworth. The students are Don Rush, a Seattle junior in forest management, vice pres. of the Forestry Club and currently on the U. M. Dickey scholarship donated by Scott Paper Co.; and Jack Behrens, senior in forest products, Chehalis, Wash. Behrens recently returned from Australia where he worked in the forest products laboratory.

Alan G. Ogren, Coast Sash & Door Co., was elected vice president, and Don B. Hartman was re-elected secretary-treasurer. Recording secretary is now Raymond Gardner, Heidner & Co.

New board of directors consists of George Williams, Robert DeLong, Raymond Gardner, Alan Ogren, M. L. Sorber, Corydon Wagner III, Warland Wight and L. T. (Tom) Murray Jr.

Credits Are Given For Torque Converter Story

• Due to printer's omission, the following credit acknowledgement was not included with the article "Torque Converters Save Trucks" on page 106 of the December issue of THE LUMBERMAN:

• • •

Acknowledgement is given to the following men for basic material used in preparing this article.
WAYNE HOWARD, Torque Converter Engineer, Transmission Div., Clark Equipment Co., which is one of the principal manufacturers of torque converters. **FRED HEARING,** Application Engineer, Western Gear Works, Seattle, Wash.

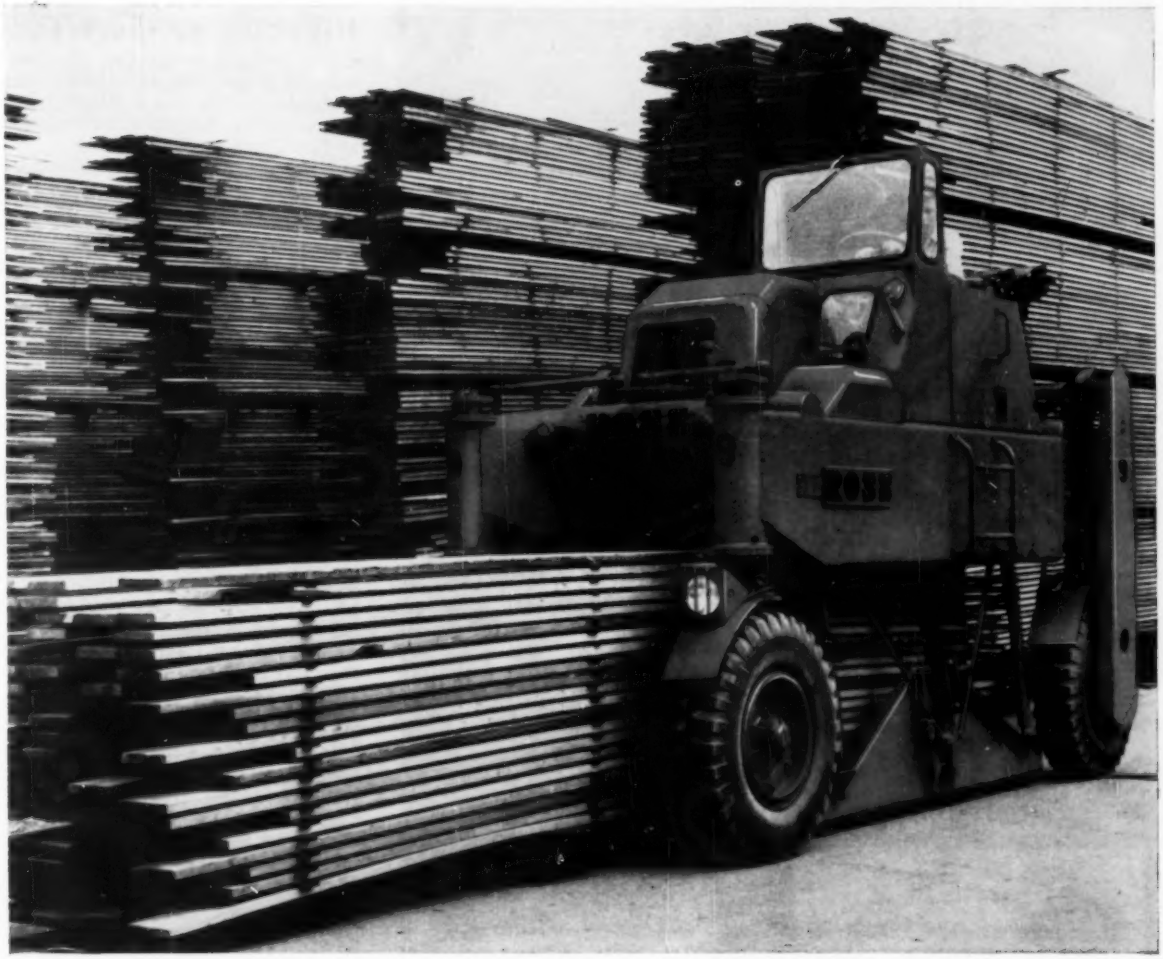
Other valuable assistance was received from **TWIN DISC CLUTCH CO.;** Allison and Euclid Divisions, General Motors Corp.; logging operators and distributors for trucks and torque converters.

There's a size and type of International engine to fit your needs... from 16½ to over 200 hp.

INTERNATIONAL HARVESTER

INDUSTRIAL POWER

MAKES EVERY LOAD A PAYLOAD



Report from Holmes Eureka Lumber Co.,

Eureka, California

No established route . . .

OUR ROSS CARRIERS GO EVERYWHERE!

VERSATILE— Says Holmes Eureka, "Our Ross Carriers move to and from the drying yard, resaw planing mill, drying kilns, shipping dock, warehouse. There's no established route for our Carriers . . . they go everywhere!"

SATISFACTION— Here's more: "We bought our first Ross Carriers in 1930 . . . have always gotten good service from them. It's a machine with a wide range of models . . . good local service for parts and maintenance."

FACTS— Full hydraulic control of load hooks—one reason the Carrier is the fastest 20,000-lb. truck on the market. Hydraulic controls eliminate old fashion chains, sprockets and friction drives . . . keeps maintenance to a minimum. Enclosed corner posts give better suspension, maximum visibility.

ACTION— *Complete* facts on how the Carrier can save you time, money, and manpower. Just call your local Clark-Ross dealer. No obligation . . . he'll be happy to help you.

CLARK® EQUIPMENT

ROSS CARRIER DIVISION

CLARK EQUIPMENT COMPANY

Benton Harbor 156, Michigan

A BETTER BUY WITH LOCAL SUPPLY—*Genuine Clark Parts*

no matter how Big the Load,
or how Rough the Terrain . . .

The NEW Ottawa TRACTO-LIFT

Handles the Load Faster, Easier . . . at Less Cost!

Unequalled for "Brute Strength" and rugged dependability . . . the New OTTAWA TRACTO-LIFT offers systematic handling of all loads under all conditions.

Unpaved outside storage space can be used the year 'round—for the new OTTAWA TRACTO-LIFT features over-sized "super traction" pneumatic tires, rear wheel steering, increased underneath clearance, greater speed and a wider range of speeds —six forward and six reverse. The OTTAWA TRACTO-LIFT will climb inclines up to 20%—has lifting capacities up to 15,000 pounds—and lifting heights up to 24 feet. And, with all its advantages, the OTTAWA TRACTO-LIFT *costs less* than any other fork lift of equal size and capacity.

Write Today for Complete Specifications and Illustrated Folder!

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CITY.....STATE.....

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OTTAWA STEEL DIVISION
L. A. Young Spring and Wire Corporation
50 Years of Progress — 1906-1956
OTTAWA, KANSAS

Colonel Greeley Devoted His Life to Forests

• Col. William B. Greeley, who contributed a half century of pioneering leadership in the timber affairs of the nation, died in November at his home at Port Gamble, Wash.

Colonel Greeley was considered by many as America's leading forestry authority and was revered by foresters everywhere as the dean of the profession. Under his guidance industrial forestry made its greatest progress; the tree farm program and the Keep America Green program, both now nationwide and powerful, were instituted under his direction.

Colonel Greeley was named secretary-manager of the West Coast Lumbermen's Assoc. in 1928 and served in that office until his retirement in 1945. Earlier, his career in forestry had taken him to the position of chief forester of the United States which he held from 1920 to 1928.

A distinguished soldier, Colonel Greeley entered the army as a major of engineers and sailed for France in 1917. In 1918 he was promoted to full colonel. At the war's end he commanded 21,000 forestry troops operating 95 sawmills and turning out 2,000,000 feet of badly needed lumber each day.

Born in Oswego, N. Y., September 6, 1879, he sailed the Horn with his family and settled in California. He graduated from the University of California in 1901 with a B. S. degree and a Master of Forestry degree from Yale in 1904. He also held a doctor of laws degree from the University of California and a Master of Arts degree from Yale. He was a Phi Beta Kappa key holder.

Colonel Greeley was once president of the Society of American Foresters, was a chairman of the board of American Forest Products Industries and was a director and president of the American Forestry Assoc.

During his career he contributed two books on forestry. They are "Forests and Men" and "Forest Policy."

Surviving are three sons, Arthur W., Henry J., David C., and a daughter, Mrs. J. A. Harvey, Jr.

Attention UBC Alumni and Forest Industry Men in B.C.

• Old grads, young grads and forest industries people throughout Canada will gather at 6:15 p. m., Feb. 8, in the Georgia Hotel in Vancouver, B. C., for the first University of British Columbia Forestry Banquet. The Undergraduate Society is sponsoring the affair; Phil Appleby is chairman. Speaker will be Charles E. Young, economist with Weyerhaeuser Timber Co., speaking on "Forest Industry Policies for the Future." For reservations write the Forest Club, Forestry & Geology Bldg., U. of British Col., ancouver, B. C.

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Water repellent PENTAchlorophenol wood preservative

Meets Federal Specification TT-W-572 and Military Specifications

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For building haul roads, skidding logs or handling many other woods jobs, the HD-21 delivers an extra measure of performance in big work capacity, steady operating dependability and low maintenance costs. Torque converter drive — originated on tractors by Allis-Chalmers in 1941 — plus other advanced-design features such as 1,000-hour track assembly lubrication . . . box-A main frame . . . oil-enclosed track release mechanism . . . unit construction . . . are some of the reasons why the HD-21 has earned its place on the job.

Washington. Brewer & Rea, of Orting, put their HD-21 to work tearing out stumps, dozing earth to build a logging road. Torque converter drive puts maximum push against stumps without ramming or butting. All-steel box-A main frame soaks up shocks and strains, protects engine and drive train for their only function — driving the tractor.

HD-21

- 204 net engine hp
- 44,000 lb
- Hydraulic torque converter drive

California. Arcata Redwood Co., of Arcata, dozes a big load to clear the way for a new road. Oil-enclosed track release mechanism acts as "safety valve" to relieve tracks and truck frames when obstacles get into track assembly . . . another reason why the HD-21 works better, lasts longer.

In Washington, as anywhere in the woods, the HD-21 consistently arches out big loads . . . sets new standards of logging output. Here, working for Murray Timber Co. at National, this HD-21 brings out up to 60,000 bd ft per day.

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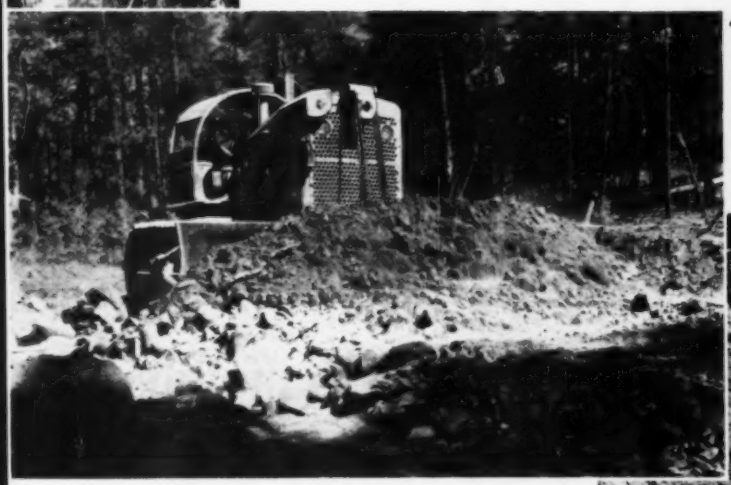

Arizona. On an Apache Indian reservation, the Southwest Lumber Co. of Maverick levels a haul road with its big HD-21. Teamed with torque converter drive, the powerful Allis-Chalmers diesel engine gives unmatched lugging ability at low rpm . . . puts maximum horsepower to work rolling loads like this.

Oregon. Fred H. Slate Co. Ltd., of Portland, cuts a haul road through wet going near Almo. With Positive Seals that provide 1,000-hour lubrication intervals for truck wheels, idlers and support rollers, the HD-21 works efficiently in mud, water and dust . . . service time is turned into extra work time.

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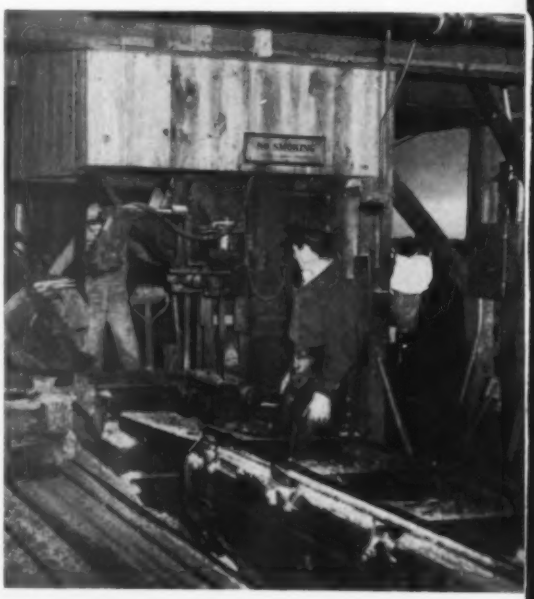

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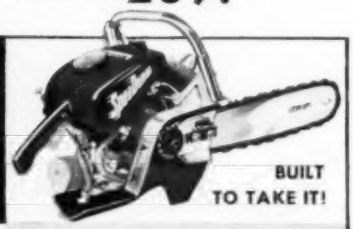

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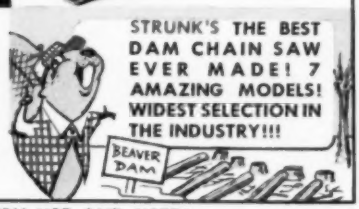

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"PFT" (Prescribed Friction Truck) Sets are engineered exclusively for hard-driving, multi-stop service on light and medium trucks. *Five different friction formulas* are used in the most favorable combinations to give safe stopping power, positive fade control and longer wear for each type of truck and its braking system.

These skillful brake prescriptions are products of more than 30 years' experience devoted exclusively to the engineering and manufacture of fine friction materials.

"PFT" Sets give you:

Mob'le Oil Truck

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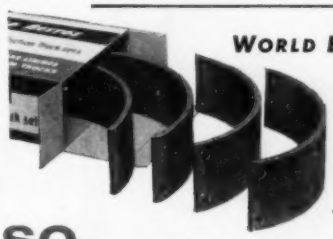

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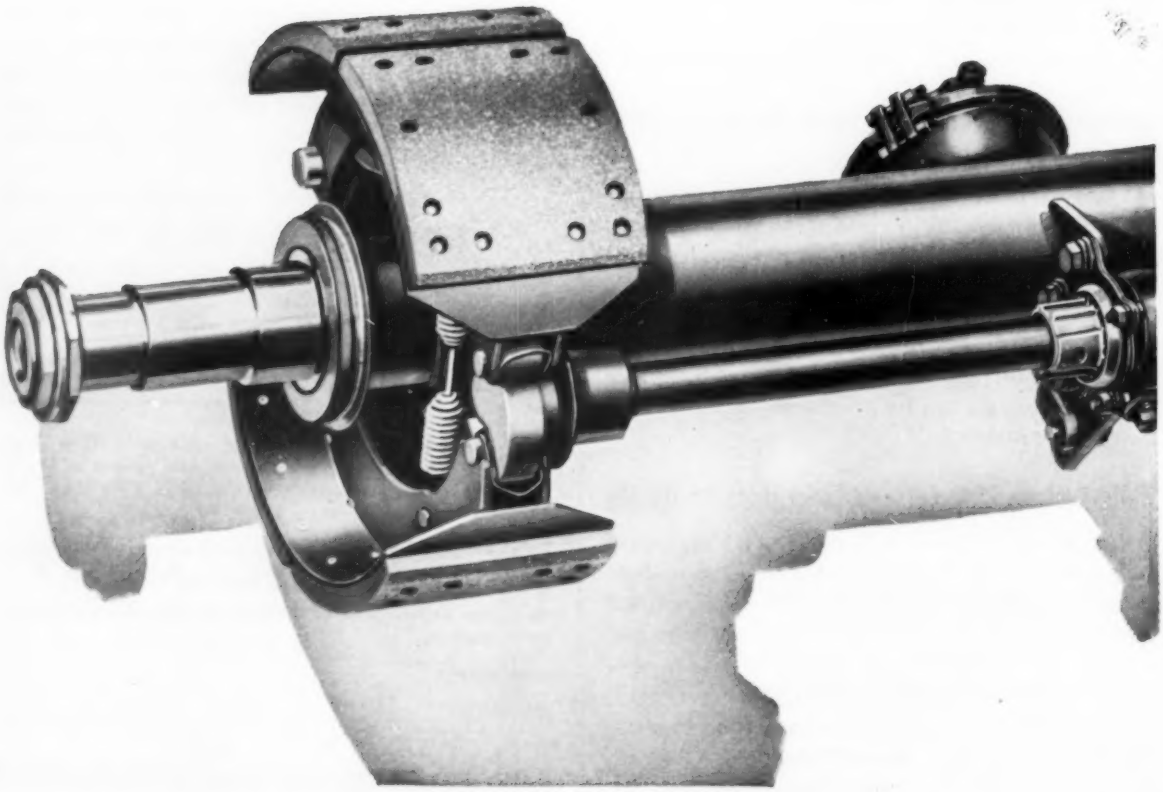

This revolutionary new TK-500 Series Trailer Axle offers far greater weight saving than any other tubular trailer axle on the market. Up to 128 pounds of *extra* payload on single axle trailers and up to 256 more pounds on tandem axle trailers.

This amazing weight saving is accomplished *entirely* through improved design and construction. A new improved one-piece brake flange and spider . . . rugged pierced spindles . . . new design lightweight steel hubs . . . ribbed, heat-dissipating drums . . . and new pressed steel brake shoes! All combine to give more payload.

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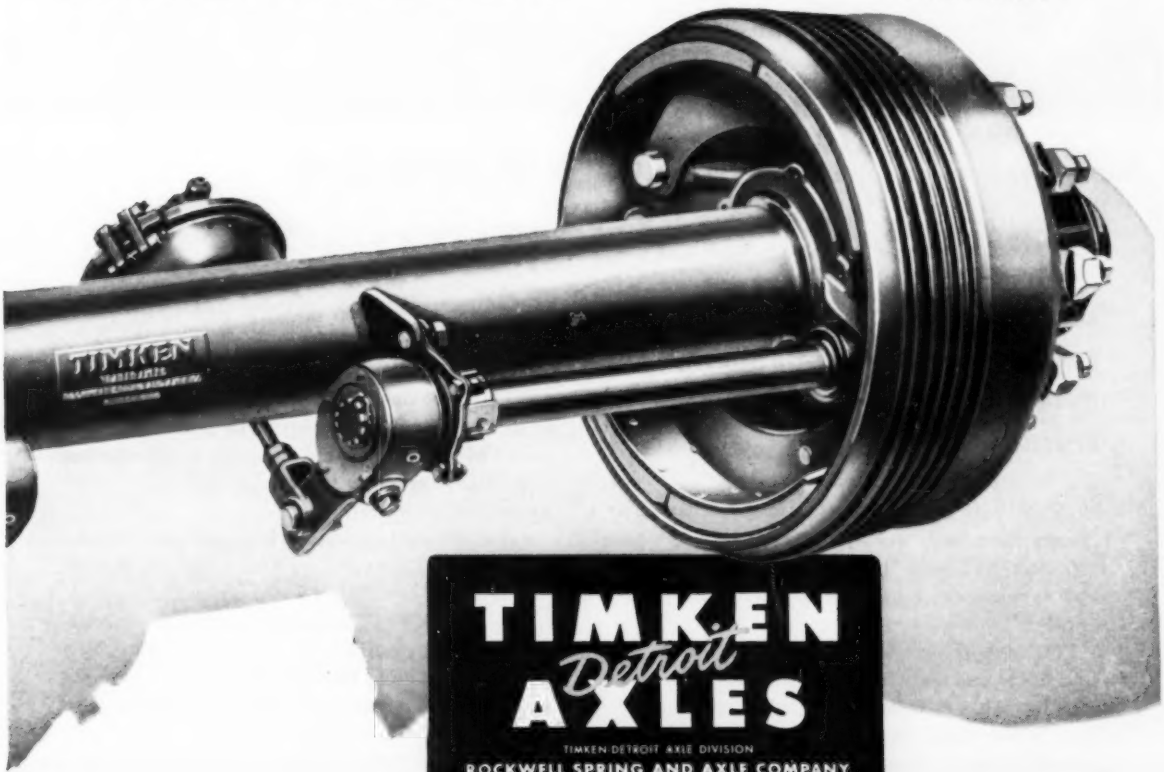

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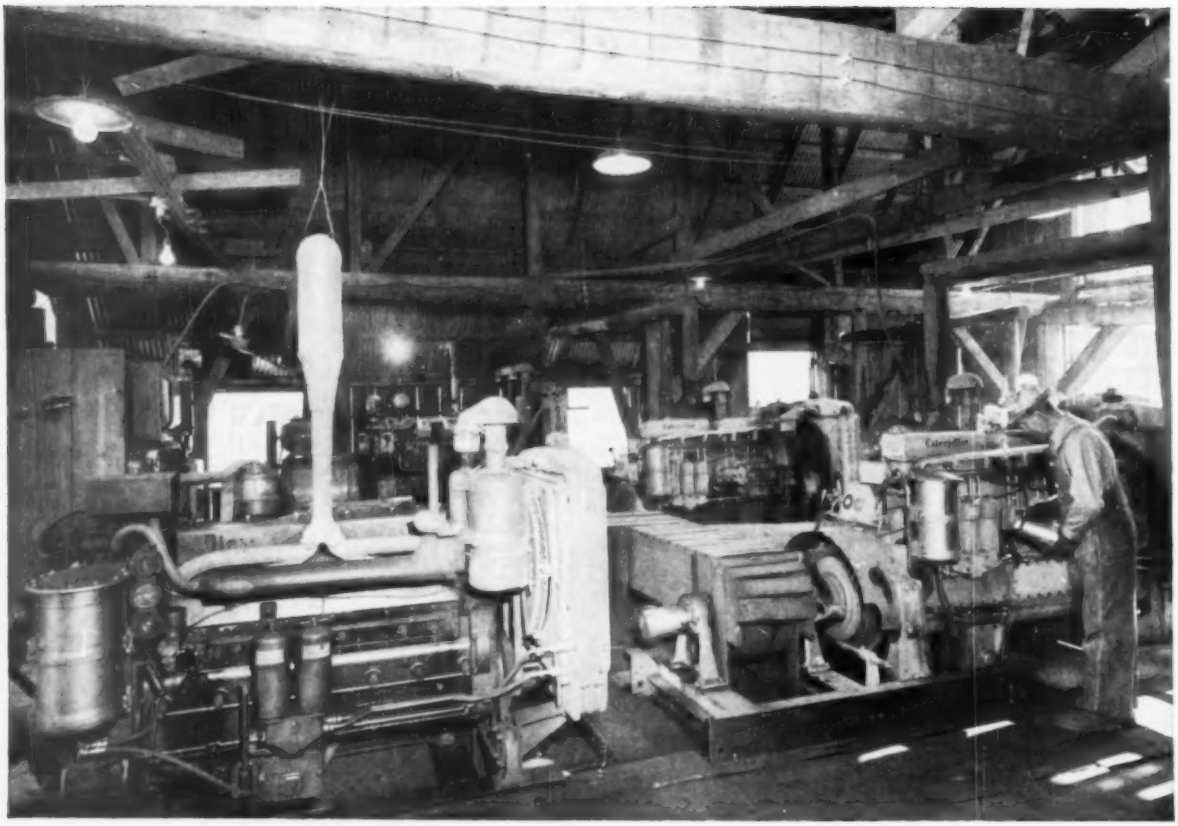

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VOLUME 83 THE Lumberman NUMBER 1

January, 1956

Everyone Likes the Small Mill

Smaller logs and higher stumpage prompt even the big operators to install fast, light equipment

HOW DOES THE SMALL MILL fit into the forest products picture today? The answer is that, countrywide, the small mills not only greatly outnumber the large ones (as they always have) but once again the small mill is making gains in number and economic importance.

The "small mills" of today fall into several important classifications. THE LUMBERMAN has classified small mills according to (1) the daily production and (2) the character of the operation as follows:

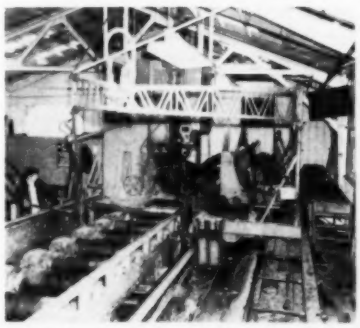
- The largest group is what might be termed the portable type having a one shift capacity of anywhere from three to ten thousand board feet per shift. These may be skid mounted or mounted on rubber tires. For the most part, but not always, they are set up in close proximity to the timber. There are obvious cost saving advantages in being close to the timber. Log transportation costs are reduced to the minimum. In cases where logs are yarded right to the mill there are no transportation costs at all.
- Another advantage is that this type of mill can cut small logs that ordinarily would not be taken out of the woods and transported a long distance to a sawmill. Ordinarily at such mills there is little labor problem. In many instances the same crew does the logging that operates the mill. Many of the West's small hardwood mills are in this classification. About a fourth of all the sawmills in the United States are in the group which produce less than a million feet per year. Mills in this class are mostly circular mills.
- The next important group in the small mill classification is the mill which has a one shift capacity of 20,000 ft. or more. With good overrun, many of the mills in this class are able to obtain very large production, perhaps as high as 35,000 feet per shift. This type of mill may be circular, band or gang. In recent years operators in this division have installed many bands and gangs.
- An increasing number of small mills are being installed by large sawmill operators either in the woods to saw cants or close to and adjacent to the main sawmill. Use of small mills in this manner by large mills has many advantages. It reduces the number of small logs that otherwise have to be put through the large head rigs. By being able to work only on the larger sized logs the main sawmill's cut can be materially increased and kept at a high level. Also it enables the company to use a large amount of raw material that would otherwise not be brought out of the woods at all. Such mills usually obtain very large production per man per day.

More to Come

In this issue THE LUMBERMAN presents the first part of a two-part review of small sawmills in the forest industries. The second installment will appear in the February issue.

The second part will contain additional regional reviews, an index of manufacturers of small sawmill equipment and descriptions of some typical operations exemplifying different types of mills.

OUR COVER PICTURE



Automation is the coming thing in small sawmills. Riderless carriages, remote control setworks and dogging, pantographs for carrying air and electricity conduits and push button controls for other mill components are exemplified in this small mill operated by Hammond Lumber Co. at Big Lagoon, Calif. (See November 1955 issue, THE LUMBERMAN.)

IN NEW ENGLAND the short log bolter is being used rather extensively in salvaging short material that can be used by furniture manufacturers. This idea is now being eyed by eastern Canadian operators. This sort of a rig is often used to supplement the small sawmill. The claim is made that the bolter has advantages in both yield and quality in cutting crooked logs and short material between four and five feet in length.

How To Operate Successfully

If there is any secret in how to operate a small sawmill successfully it probably is in being able to keep the operation in the best possible shape competitively. To do this involves many factors, and for the most part there are no two situations exactly alike. So it becomes difficult to establish a pattern for building, equipping and operating a successful small sawmill.

A vital factor in any kind of business today is to obtain a high output per man day. With today's high stumpage costs, along with costlier labor, materials and supplies, a mill operator must achieve a high per capita production of lumber for every man in the organization.

A man or a company may have a

Small Sawmill Review

SMALL SAWMILLS ARE an important part of the nation's forest economy. They are able to operate on smaller tracts of timber, with smaller logs as raw material. This one is the Tufts Lbr. Co., near Port Angeles, Wash., set up to salvage part of Forks Burn timber.

good mill, a good supply of timber and work hard and yet not make any money. He can have a good mill in a good location and a good supply of timber and work hard and still not make any money. However, location is a vital factor in the success of a small mill.

There are a lot of small mills everywhere, West, South and East, that from force of circumstances or maybe from a forced choice, are not making what they might under different circumstances.

The financial considerations more often then not are the deciding and controlling factors in shaping the small mill set-up. Initially, the man or firm with limited capital will likely have to confine activities to just a sawmill of whatever size and capacity is available for his pocketbook, and an edger. The location more often than not will be close to the timber supply. The product will probably be mostly cants and two inch with some one inch rough lumber. Power will be provided by a gas or possibly a diesel engine. The cut will normally be sold to some other mill for remanufacturing. This is the simplest form of a small mill operation.

Log Supply Is Problem

Another type of small sawmill operation is one located in or near some center of population. Logs are trucked to the mill, or rafted, or railroaded. The operator has the problem of log procurement. He obtains logs from many sources. An increasing supply comes from second growth farmers and gyppo loggers. Some come from neighboring sawmills or pulp or paper mills, plywood and veneer plants, and some perhaps from company owned timber stands. Generally speaking, the type of logs available for such mills covers a wide range and on the whole does not compare in quality with those available at most large sawmills; at least this is the case in the Douglas fir region.

Here is the log procurement phase of the operation, the mill must strive by every means possible to maintain a favorable competitive position.

The mill will probably strive for a one-shift production of upwards of 20,000 board feet. The more the better, of course. The cut may be increased to 30,000 feet. Then the smart operator will run his mill two shifts. This gives him a sizeable production and puts him in better competitive position sales-wise, for he will have sufficient production to interest larger buyers. There is much to be said in favor of the operator finding a sales outlet which will take as much volume as possible, assuming of course that the price is right.

Advantages for Planers

To get into a better competitive position the mill will find that a planer is essential. There is no reason why the mill should not plane its lumber and make that profit. Dressed lumber has a much broader outlet than rough.

Since the mill is located in a population center, no doubt there will be a retail yard outlet. This is good business for the small mill, because normally the buyer trucks the lumber from the mill so no transportation cost is involved. This retail market depends of course on the size of the town in which or near which the mill is located. If a big city, all the lumber may be sold to retailers. The small mill located where its cut can be shipped by water enjoys some important competitive advantages. There is normally a good cargo demand for dressed **green** lumber.

Some mills sell a considerable portion of their cut in the rail trade. But regardless of where the lumber is sold, the mill to keep competitive must produce lumber of high quality, the higher the better. The progressive small mill owned will try by all means possible to manufacture the kind of lumber the customer wants and a product that compares in every respect with that offered by the big mills.

Good Equipment Available

One thing that is all in the operator's favor is the wide range or excellent sawmill equipment on the market today. In the decade since World War II has come the development of sawyer-operated no-man carriages with more reliable air, hydraulic and electrically operated setworks, knees and dogs, as well as automatic log haul and deck equipment. In addition, the standard and conventional mills, carriages, and log and lumber power transfer equipment have been continually modernized to produce more and better lumber.

The very small or portable rigs for the most part have circular head rigs. This is the cheapest type. Their initial low price and ease of operation and portability, offset the known waste of raw material by reason of the wide saw kerf.

Small Sawmill Review

At some point between a one shift capacity of 20 to 30,000 feet operators begin to figure the advantages of a band or gang. Both use thinner saws that are used on circular head rigs and therefore save timber which in this period of increasing scarcity of logs, is a factor to be considered. There are many arguments as to the relative merits of bands and gangs. Each unquestionably have their place in the industry.

In nearly all instances band and gang type small mills are equipped with edgers and the general practice is to do as much canting as possible on the head rigs and complete the manufacturing process on the edger. Some mills have other auxiliary equipment. All operators want compact fast mills.

The addition of a planer is important in helping put the plant in good competitive position. In addition to enabling the mill to produce a readily marketable product, the planning unit can if carefully integrated, enable the plant to increase its production and profits by purchasing cants from small mills having no planing facilities. This sort of activity puts the small mill in still better competitive position.

How To Streamline Handling

In the matter of handling lumber it is possible for the small mill to improve its competitive position by paying careful attention to packaging. Sorting dressed dimension into even length packages, facilitates handling and provides a far more attractive unit than random length packages. Such packages, if necessary can be steel strapped for easier loading and stowing in ships, rail cars or trucks.

One problem at many mills regardless of size or type, is that they grow and that although at the beginning they have adequate power, they will find themselves underpowered with the addition of new machinery and equipment. A mill which might require 150 horsepower at the beginning might in a few years need 500 horsepower. Most woods mills are gas or diesel powered. Where electric power is available, many operators find the use of motors has many advantages.

In making improvements and adding new equipment many mistakes can easily be made. One well-known sawmill operator told THE LUMBERMAN that he will not add a new machine or make a major improvement that cannot be amortized in two years. He feels it is a serious mistake to take more than two years, because of rapidly changing conditions. A piece of equipment which may be ideal today, may be wrong or obsolete in two or three years.

Barkers and Chippers

One major plant betterment possibility now facing the small mill operators is that of installing whole log barking facilities. There appears to be no question but that installation of such equipment would result in increasing overrun and help speed up the mill. But along with the barking would go chipping facilities. Such a unit would enable the small mill operator to obtain closer utilization, added revenue and therefore put the plant in a better competitive position.

Under normal conditions there are considerable leftovers at the average small mill, whether it be located in the woods, or in the city. The woods mill has little or no chance to even sell a little wood. And the best the city mill can expect to sell is only a little fuel. Pulp chips now are a marketable product everywhere. A chip supply might well be a potent factor in obtaining logs on a trade basis.

In many communities hogged fuel can be marketed. The deterent to installation of barkers is that the small operator feels existing barkers have more capacity than needed by small mills and therefore involve too much capital investment. However, they hope that barkers will be developed which will fit the small mill and be within their financial reach.

The supply of second growth logs available to small mills likely will continue to steadily increase. There is considerable discussion as to the relative merits of small, and in many cases, salvage type logs available for small mills, and the type of second growth logs now being logged. There seems to be a growing feeling among small operators that they prefer the second growth logs. They say that the quality of lumber that can be produced from such logs is good and such material is readily marketable. In recent years the matter of clear lumber produced is not too important to the small mill. The production of clear lumber has decreased and the demand can easily be supplied by the large mills which still have a supply of old growth timber.

Some small mills still sort out and accumulate clear, but by and large

(Continued on page 110)

New Firm Processes Pacific Coast Hardwoods

THAT JACK R. PFEIFFER, head of seasoning section at Oregon Forest Products Laboratory, Corvallis, Ore., holds conviction of genuine opportunities in the field and technical meetings, and his published reports of recent years. Further evidence has been indicated by formation of Superior Wood Products, Inc., Corvallis, Ore., a commercial firm established to manufacture native hardwood lumber. Affiliated in this organization with Pres. Preiffer are V. Pres. Ken. Burch, who operates Marys River Lumber Co.; Sec.-Treas. V. L. White and R. E. Vosburg, co-owners of Digger Mountain Lumber Co.

Although production to date is meager, this new firm is doing business and holds to an optimistic outlook for the future of hardwood lumber in Pacific Coast states. Present production facilities are inadequate, but Pfeiffer points out that at least some of them were born by economic expediency rather than approved engineering. He confidently expects this situation to change as the firm develops stability, skilled production techniques and experience.

To date the company has commercially produced alder and maple lumber and is now getting into processing some other Western hardwoods, including ash, oak, chinquapin and walnut. Tan oak yet remains an anticipation.

Sawmill facilities include a semi-portable 54-in. circular mill with remote-control setworks and 3-saw edger, powered by 165 hp. 6-cylinder GM diesel engine. This unit operates in the woods about 20 miles west of Corvallis near its timber supply.

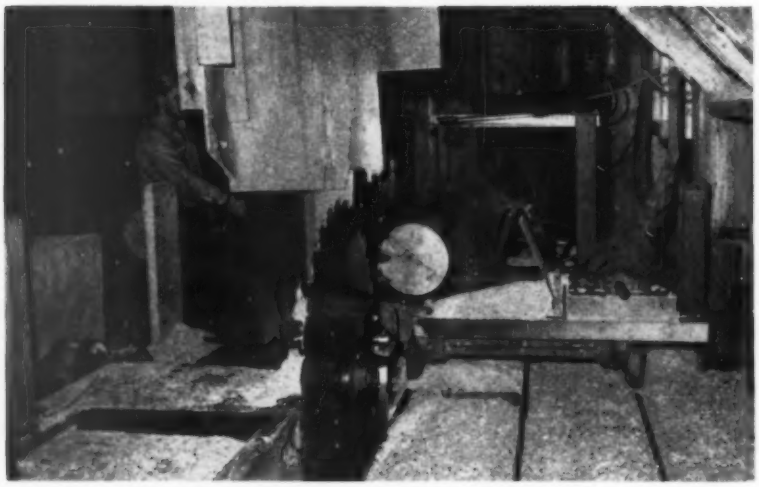
PRODUCTION PLANS CALL for running the operation "like a typical eastern hardwood mill." Logs are graded and cut random length to yield maximum grade recovery and the lumber marketed under the hardwood grading rules adopted in 1954 by National Hardwood Lumber Assoc. Cuts made on the headrig are random width and one to three inches thick. By normal western mill standards, production seems exceptionally slow, principally because of the time and attention devoted to detailed processing for grade. The sawmill, operated by 3-man crew, currently averages 3 to 5 M feet per day.

Stock from the sawmill goes directly onto truck-loading jacks for subsequent haul to the company's dry kiln located 4 miles north of Corvallis tributary to both rail and highway transportation. The kiln boiler fired by a burner using 300-weight oil, has capacity of 22 to 24M board feet. Current plans call for construction of another, but smaller, kiln for seasoning specialty hardwood items.

Following seasoning, the lumber is surfaced on custom basis. In at least one case the firm has made custom milled mouldings from its Western hardwoods.

Within the past couple of months the Superior Wood Products firm leased a plantsite at Camp Adair and is installing remanufacturing facilities there for producing finished hardwood dimension lumber and mouldings.

Small Sawmill Review



CORLEY 54-INCH circular stud mill equipped with four 14" Simonds edger saws mounted horizontally and Armstrong air setworks utilize 8' peeler cores at Alaska Plywood Corp., Juneau.

Many Changes Show Up

in small mill design as logs are reduced in size and volume

by DAVID P. THOMAS

Editor's Note: Prof. Thomas has made detailed time-and-cost studies of a number of small mills in the Douglas fir region and is the author of several circulars and bulletins on small mills published by the Washington Institute of Forest Products. He spoke on the developments in this field at the national meeting of the Forest Products Research Society in Seattle, Wash. in June, 1955.

RECENT TRENDS IN the milling of small logs illustrate the versatility of the sawmill industry in coping with present-day conditions fostered by competition for saw logs and a high market demand for lumber. Sawmills of all sizes and descriptions, in order to maintain production and fill orders, must accept and process an ever-increasing volume of small-diameter logs. Productivity of most mills, however, is so reduced by the use of outsized equipment for handling small logs that production costs soar to the breaking point. Even the small operator with a minimum of equipment is not immune to the problem as the high cost of raw material leaves no margin for wastefulness. Thus, the industry has acquired a "new look" which reflects not only changes in the saw-log resources base but also industry acceptance of technological advances.

In the past decade, the industry has made significant progress in countering rising costs of stumpage, logging, transportation and labor by minimizing production costs through:

- Improved sawing practice.
- Acceptance of mechanical and automatic labor-saving devices.

The first and third points are pertinent in a discussion of saw-milling trends.

Improved Sawing Practice

CIRCULAR MILLS. Although the principal tools for sawing lumber, namely, the circular, band and sash-gang saws, remain unchanged in principle over the years, today's equipment is better engineered and constructed than equipment available to the industry in the past. Circular headrigs still enjoy the advantage of low installation cost as compared to band and sash-gang operations. However, the high cost of saw logs has prompted many mill men to note some of the false economies of circular sawing and extensively modify their sawing practices or equipment to compensate for the sawdust-producing tendencies of the circular saw.

In situations where circular sawing proves to have definite advantages the headrig's inherent wastefulness is offset in most modern mills by all-out efforts to reduce labor costs through extensive mechanization and automation within the mill. Certain milling conditions still dictate the use of the high-production, durable circular saw, but trends clearly indicate that profitable circular operations are rare that make little effort to either reduce labor costs, add supplementary sawing equipment or mechanize the milling process.

High-volume, circular-headrig mills have shown definite trends toward the installation of follow-up equipment that reduces the number of saw-lines on the headrig to an economic minimum. The circular headsaw followed by a cant gang has established itself as an economic sawing practice, particularly in mills cutting for export or for mills blessed with fairly uniform-size and uniform-quality logs.

SKRAG MILLS. A modification of the circular mill which has been looked upon with increasing favor in recent years because of its low man-power requirements and high productivity is the Skrag mill. Originally designed for the production of studs, the Skrag mill's usefulness has been expanded to the manufacture of dimension and cants from small logs six to twenty inches in diameter and eight to twenty feet in length. Some remarkable production figures have been obtained with the Skrag mill that reveal its capabilities.

A five-man, two-saw Skrag mill producing eight-foot 2 x 4's is capable of 40M feet per shift. The four-saw mill producing studs will make 65M feet per shift with an eight- to nine-man crew. The two-saw mill cutting resaw cants and some side lumber from logs up to twenty feet long is capable of 50M per shift with four to five men. Skrag mills are not limited to the two- or four-saw variety as six-saw units are also being marketed by equipment manufacturers.

The Skrag mill, in essence, mounts one or more pairs of parallel saws, each saw being on a separate arbor, in such a fashion that their parallel displacement can be varied to accommodate logs of varying size. The logs are successively drawn through the pairs of parallel saws by means of a continuous chain fitted with special lugs. In the case of the two-saw unit, the slabbed cant can be returned for a second pass through the saws.

The multiple-saw, Skrag-type mill has proven especially effective in processing low-grade, eight-foot logs into studs.

GANG MILLS. A definite swing toward the increasing use of round-log sash gangs has been noted in western softwood milling practice in the past few years as mill owners seek greater recovery from the small-log resource and increased productivity per man. The high price of saw logs has converted many circular mill owners to the Swedish gang headrig despite the

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higher cost of installation of the gang saw. A highly favorable overrun figure coupled with accuracy in sizing the sawn product and moderate manpower requirements make the round-log gang a highly efficient sawing device for mills with daily capacities of 40M feet or more per shift.

Most effective use of the gang saw is gained by mills with facilities for sorting and storing large inventories of small logs. The benefits of sorting logs into diameter classes of narrow diameter limits prior to sawing are appreciable, although gang-saw manufacturers state that it is difficult to educate mill men as to the merits of such sorting. European practices in sorting to as close as one-inch diameter limits for a given sash setting have proven profitable in their economy. A trend toward more effective log sorting is noted in the ponds of the larger mills that sustain a large inventory of small logs.

Much of the advantage of the gang saw is lost in mills of less than 40M feet per day capacity because of insufficient log supply for effective sorting or for lack of storage space and facilities for sorting. Low capacity round-log gang mills have met with some favor when used as an adjunct to a carriage-type mill where only the small, low-grade logs are diverted to the round-log gang. In following the trends in gang sawing, it is noted that relatively few single headrig installations are actually installed for capacities of less than 40M feet per shift.

The upper capacity limit for effective gang sawing by a single unit mill is debatable as the ultimate capacity is a function of timber type, size and quality. In situations where all logs fall in the less than twenty-inch diameter class, from a good forest utilization practice, the only limit to daily output is the machine capacity itself. However, in practice many mills push through an appreciable volume of material greater than twenty inches in diameter in order to maintain daily production. In a market which is short in supply of upper grades, this practice is questionable. It is evident in studying milling trends that mill operators are keenly aware of the effective upper diameter limits of the gang saw for obtaining maximum profitable return from the log.

BAND MILLS. Band mills for many years were considered to be for high-volume mills only because of high initial investment and saw maintenance requirements. As raw material costs have increased in respect to equipment costs, the small band for small logs has proven a profitable investment for many mill owners. Mill owners who have replaced circular rigs with bands ranging in size from 4½ to 6 feet indicate that the new equipment pays for itself in the small mill within a period of approximately two years.

The rise in small band mill popularity has been augmented in a large part by recent developments in sawmill automation. However, the merits of the small band mill alone are noteworthy.

Band mill overrun in small logs approaches that of the gang saw and in addition offers the advantage of being a more effective device for recovering higher grade yields over a wide range of log diameters than that of the gang saw. The potential grade recovery from a given log is higher for the band mill than for either the gang or circular mill. Since the band's production characteristics are intermediate between th gang and circular, it is proving to be an extremely versatile innovation in small log milling practice.

The versatile nature of the band mill not only lends itself to the efficient processing of a wider diameter range of logs b·t also functions effectively in scavenger operations where chunks and pieces of quality material, which would not pay their way through a large-log mill, can be economically sawn at a handsome profit. The extra earnings from cutting more lumber with a reduced volume of timber appeals to many small operators in second-growth and salvage areas where log size, quality and quantity varies over a wide range from day to day. The problems of log sorting and log inventory are at a minimum in this type of mill. The high productivity of the small band mill coupled with the steady, uniform rate of lumber flow and the low man-power requirements are important factors which have influenced its growing popularity.

Sawmill Automation

Conventional carriage mills have benefited greatly in the post-war period from technical advances in sawmill mechanization and automation. Acceptance of these innovations is noted throughout the industry from the smallest through the largest mills. The greatest progress to date has been made in the mechanization of the mill deck and log carriage and in the introduction of automatic controls. A mechanical or automatic device no longer carries the "big mill label" as many competent sawmill engineering firms have come into being in this "age of automation" which cater to the needs of the small sawmill. These firms have also established reputable consulting divisions which offer design, layout and construction assistance. The industry as a whole is awakening to the advantages of employing these experienced specialists who build many mills per year in the course of their business.

Sawmill automation, within the past few years, has passed beyond the pioneering stage. The riderless carriage is on the verge of becoming "standard equipment" in all sawmills with automatic devices to perform setting, dogging, tapering and flipping. The deck is equally well automated with turners, lift-skids, loaders and transfers. Recent trends indicate that edging, trimming and resawing operations will likewise benefit from increasing automation in the future.

ONE OF SEVERAL small mills in Washington's Olympic Peninsula is Victor Le Bruche sawmill with two headrigs cutting about 25M bf. per day with double-circular main headrig anl pony circular saw.

SALEM POLE MILL of Coeur d'Alene Stud Co. at Coeur d'Alene, Idaho, is powered by 150 hp. Allis-Chalmers elect. motor, slabs logs in 18" max. opening. One to several cants are cut from each log.

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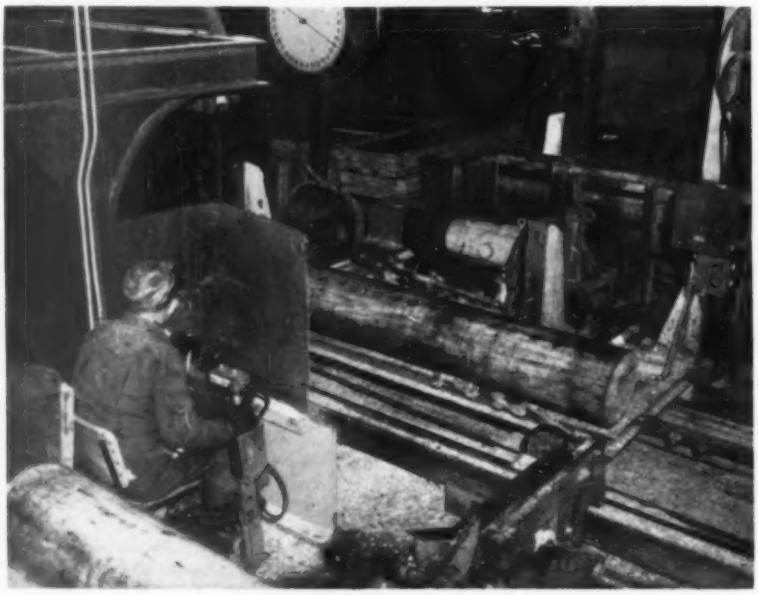

AUTOMATIC "RIDERLESS" CARRIAGE for small mill. Sawyer controls dogging and setting.

How Devices Save Labor

in small sawmill operation and add to profit margin of the business

by MILTON H. MATER

Editor's Note: The equipment mentioned in this article has not been identified by manufacturer. This information can be obtained by writing THE LUMBERMAN.

LABOR SAVING DEVICES are as essential to the small log mill which functions as part of a large operation as to the small mill which is on its own.

Mr. Mater is president of Mater Machine Works, Corvallis, Oregon.

DEVICE FOR carrying compressed air and electric wires from mill floor to carriage.

The key to today's sawmilling is to obtain the highest productivity possible. The small mill operator is offered a wide choice of labor saving devices from which he can select those most suited to his particular mill.

For the purpose of this summary a labor saving device for a sawmill is considered a new machine or device, or an improvement in a conventional machine which does a job otherwise requiring a man, or reduces the manpower required to do a given job, or enables the same man to produce more lumber. Some of these devices may have been used before, but may be new to small sawmill use.

LOG POND. Small mill operators are making wide use of **chain saws** for bucking logs in ponds and decks. These saws double the output of operation when compared with a reciprocating drag saw. Chain saws especially designed for small logs are available from many manufacturers.

Another machine available for small mills is the packaged **side delivery log haul.** A side delivery haul aids in the removal of men from the deck. Made in a variety of sizes, they are usually fabricated of steel and come ready to install in the mill.

LOG HAUL AND LOG DECK. Log decks have seen many new innovations and improvements. Not only mechanization but even automation has been introduced to the small mill. Among the new devices in the log deck are:

- **New machines** for strapping, packaging and handling small logs which offer the small mill a choice of labor saving log handling. One tractor manufacturer makes an attachment which permits using the same tractor in the woods and for handling logs in the mill. The increasing use of fork lifts for loading from a dry deck is noticed in mills which do not have log ponds.
- **Live log storage** decks which deliver the logs from the log haul to the stop and loader are now packaged for the small mill. These consist of skids, chains, and electric motor drive.

Use of a side delivery log haul and a live log storage deck takes a man off the deck. The live log storage deck also enables mills which dry load with log transporting machines to put the logs on the deck without requiring a man on the deck.

- **Automated log decks.** These are not packaged units as yet, but in conjunction with mechanized log hauls and live storage deck (described above), a completely automated deck which feeds a large volume of logs to the carriage with no men at all on the deck and no men between the log pond and the sawyer, has been worked out and is in operation. The automated log deck operates by limit switches and is an advanced step in sawmill operation. An automated deck is at present an individual engineering job which requires a good deal of skill and know-how.

TURNING DECK. Mechanical devices for turning the logs on the deck are numerous. There are various types of bar type turners which turn against the knees and hook turners and flipper-push arm combinations which turn away from the knees. The bar type turner gives the small mill the advantage of a steam turner without the high cost of installation and maintenance of steam. One bar type turner now available requires only four feet of space below the deck and is ideal for ground floor mills.

AIR TONG Dog Conversion kit to put air operated dogs on small mills increases production.

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HEADRIG. Many mills are turning to entirely different types of new mechanical sawing devices. Short log bolters, skrag mills, pole mills and other devices are being increasingly used to supplement small mill output. However, most mills still use a conventional headrig with a circular or band saw, or a log gang mill as the primary breakdown machine.

More mechanical devices have been developed to save labor on the headrig than for any other operation in the mill. These include:

• **Setworks:** A number of "remote control" setworks are now available which permit the sawyer to do the setting and dogging as well as perform his usual duties. These setworks are gaining in use both in small mills and in large mills. Most of these setworks are intricate electrically controlled devices.

New setworks accuracy is available with the recently developed "follow up" system which adds great controllability. These remote control setworks are now available in sizes specifically designed for small mills. Another new setworks available for the small mill is the "transition" setworks, which is actually a two stage remote control setworks. This setworks can be purchased for setter control, and then at a later date the setworks can be converted to remote control or sawyer operation by adding standard components.

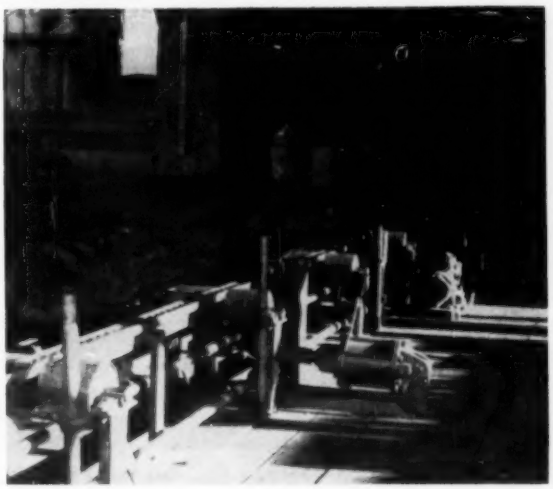
Completely automatic "Riderless" or remote control carriages specially designed for the small mill are available.

• **Dogging:** Powered dogs have long been available for larger mills. They are found in increasing number in small mills due to the number of mechanical devices which enable any mill to put power on its carriage dogs. Many manufacturers are producing carriages for small mills with dogs powered by compressed air or hydraulics. For those carriages which do not have powered dogs, Air Dog Conversion Kits are mechanical devices which are available for putting dogs on the carriage and for operating them with power.

Last year a new type came out with tong dogs—nondefacing dogs which have been found of greatest use in holding frozen slippery logs and in dogging down to the last cant without defacing the lumber. Conversion Kits can be installed by the mill operator himself at his plant. These Kits save the doggers and permit the setter to do a better, faster job. Kits for putting the dogs under sawyer control are also available.

• **Mechanical Devices** for carrying compressed air and electricity from the mill floor to the carriage. A packaged unit is now available for small mills. This consists of two arms operating on a pivot, which carry air and electrical cables to the carriage. Points of breakage is simplified by special connectors which make possible multi-electrical connections in minutes. Small mills making this installation have reported a marked decrease in electrical cable maintenance.

AUTOMATIC gang log turner. ▶



• **Round Log Gangs.** Several relatively inexpensive makes of gangs are available for small mills, some manufactured outside the United States. These gangs are used as the primary breakdown machine as an efficient way to handle small, lower grade logs with a comparatively small investment and a minimum number of men. Continuing improvements on these small round log gangs aim at decreasing initial costs and maintenance costs. One manufacturer has recently come out with an automatic gang log turner, which enables the sawyer to rotate the log by remote control to find the position most advantageous for sawing. This is used for either circular gang or sash gang headrigs.

• **Bandmills.** Many small log sawmills are putting in bandmills. They enable the same crew to obtain more lumber production by saving kerf. Some manufacturers have come out with band saws specifically applicable, both in performance and price range, to the small mill.

• **Offbear.** Packaged live offbear rolls are now available to expedite lumber handling. Complete automatic offbearing is possible for small mills, but is not yet available as a packaged unit. Each automatic offbearing system needs to be engineered to fit particular mill conditions.

FEEDWORKS. The many packaged electric, hydralic, air motor and friction feedworks which have been put on the market for small mills in recent years have proven valuable labor saving devices. The small mill needs no longer to depend on a steam feed, with its high installation cost and its high labor requirements, or as an alternative, on poorly designed friction or belt feeds.

Several manufacturers are now making brake drum type of friction feeds, which are highly developed and efficient for high speed small mills. The several hydraulic feeds which have been developed give variable speeds and as good performance as the old steam feeds without the use of manpower to tend a boiler. Good compressed air feeds are available, and the electrical feed has reached a high point of development for smaller mills.

EDGER. While pre-set and automatic edgers are still in the development stage and not yet available to small mill operators as packaged units, several labor saving devices have come out for transferring lumber to and from the edger. **Automatic transfer** to the edger from the offbear rolls is practical with a stop and transfer chain arrangement. These can be assembled from standard units.

Shadow guide lines have been developed and are available. These units are a combination of a light source and a stretched wire and have been found to save time and increase output.

Packaged transfers from the edger to the trimmer are also available.

TRIMMER. Many small mills are putting in undercut trimmers in place of offset type swing saws. This type of trimmer not only takes a man off

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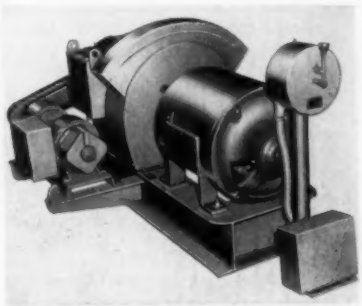

ELECTRIC VARIABLE speed log carriage drive. This is a typical motor-generator set and has sawyer's "fingertip" controls.

FERGUSON LAKE SAWMILLS, owned by I. Killy and J. Ruste, is one of the small sawmills in the Prince George, British Columbia, area. Two Caterpillar diesel D337's power the mill. 40,000 ft. spruce daily is cut with Calvert automatic carriage and Wurster & Dietz gang saw.

Mills Plane Lumber

and chip leftovers in B. C. as industry becomes cost conscious

STATISTICALLY THE SMALL sawmill picture in British Columbia has shown a consistent increase in the number of mills going into production each year. Latest figures show: Vancouver area, including the lower mainland and Vancouver Island, 338 mills operating; Northern interior section: Prince Rupert 311, and Prince George, with a high percentage of small one and two man operations, 700 mills. In the southern interior the Kamloops area shows the highest number with 677 sawmills. The Nelson area has 320 now in operation.

Production-wise, the coastal area accounts for about two-thirds of the total figure, with the two interior regions dividing the balance between them.

Throughout the province a marked change in the methods of operation is evident. The picture of large headsaws and steam equipment to handle fir, spruce and cedar logs is changing. The practice which is becoming increasingly popular is for logs to be barked before being sawn, and as the size of logs becomes smaller, mills are installing gang saws. The problem of leftover conversion has been tackled seriously by many of the mills in the coastal area with the installation of barkers, chippers and conveying systems. The latter change is due in part to actual and anticipated expansion of the pulp and paper industry.

Each section of the province, which is roughly divided into three areas, has its own particular problems. For example, the coastal sawmills and those on Vancouver Island are acutely aware of the potentialities of leftover conversion into chips because of easy facilities to the pulp mills, and for this reason make substantial capital expenditures. The two interior districts are faced with a different problem, and the trend is away from the portable one and two man sawmills to modern mill operations.

This is particularly true in the southern region. The trend is not necessarily to large mills, but rather to smaller well equipped mills manned by capable personnel, the combination of which accounts for a very high degree of efficiency. The smaller timber available to the southern interior, and the less rugged terrain make an ideal framework for these smaller but efficient mills.

THIS TREND to greater efficiency, and the conversion of leftover materials into saleable product—has been responsible for a considerable increase in the number of equipment firms entering the field to further serve the sawmill industry. These include gangsaw manufacturers, portable sawmill companies, sawmill conversion specialists, and firms manufacturing pneumatic conveying systems.

Lumber grading is another comparatively recent undertaking by smaller mills. The increasingly competitive market has prompted the Northern Interior Lumber Manufacturer's Association, and the B. C. Interior Lumber Manufacturer's Association to delve into the problem of lumber grading on a full scale. The southern group has led the way with schools already established to step up the grading program. The northern group at the 1955 convention decided to give the subject of lumber grading priority and a comprehensive program is under study.

Smaller mills near the coast are keeping up with their bigger brothers and installing barking and chipping equipment. Five major types of mechanical and hydraulic barkers are in current operation and these include the Hansel spinning ring barker, Bellingham barker, Simons rotary-head barker, Hansel Oscillating barker and the Nicholson roto-barker. Other types are also in use having being designed for special service. In the chipping field names like Sumner, Norman, Nicholson and Hansel dominate in the recent installations.

In the pneumatic conveying systems, three British Columbia firms have contributed largely to the progress in this field. Conveyair of North Vancouver, Pneumatic Conveying Systems, and Rader Pneumatics.

Transporting chips by means of long tubes to barge or rail car is gaining in popularity among mills interested in chip salvage.

MANY A SMALL MILL operator in British Columbia's coast region has found that chips have been primarily responsible for his profit and he has made sure that his chip production setup is efficient. While the small mills have not accounted for all the chip output, they have played an important role in producing approximately a million units of pulp chips during the past year, with an additional 200,000 units originating at mills not equipped with barkers. Without the hydraulic barker and chipper the pulp and paper industry in British Columbia would have needed 1000,000,000 feet BM more logs than they actually used.

At present there is no market for chips from the interior mills, although Celgar Development Co.'s plant at Castlegar in the Kootenay will eventually provide an outlet. There has been talk of shipping chips from the Prince George area to Columbia Cellulose Co's big pulp mill at Prince Rupert by rail. Inquiries have also been made during the past season in the Cariboo and adjacent areas to determine the potential of portable chipping plants, but the cost of transportation has been a limiting factor. Some mills in the southern interior have looked into the possibility of shipping chips across the border into Idaho (Potlatch Forest), but this may still be a marginal prospect.

Many interior mills have installed gang saws and this is possibly the most noticeable mechanical development, with Dominion, Esterir, Wur-

ster & Dietz, Heap and other units being in favor. There has been a general movement towards one-man carriages as well as gang mills. The latter is partly influenced by the fact that operators now pay for stumpage on a cubic scale basis and are thus encouraged to reduce their kerf.

Another notable development has been the large number of kilns going into mills in the interior. A more competitive market and insistence on better quality lumber have inspired this move. Pondosa Pine Co. at Monte Lake, near Kamloops, has pioneered the use of kiln car dollies for handling lumber from the green chain to the planer, the whole operation being handled by one lift truck. Increased use of kilns has been indicative of a tendency towards generally improving the efficiency of the mills.

"A FEW YEARS ago the interior of B.C. had only a few small, fixed-location mills and many of them were haywire, plus a scattering of portable setups. Today the trend is toward fixed or semi-permanent locations. In the last few years the mill operators in good locations, with plenty of timber available, have really gone to town, and they've had the money to do it," says one operator.

S. M. SIMPSON Sawmills operation at Kelowna has for years been regarded as one of the interior's model mills; in fact, it no longer properly belongs to the small-mill category. But many other mills have improved so much that they would stand comparison anywhere. Boundary Sawmills at Midway, Creston Sawmills, now financed by U. S. capital; Galloway Lumber Co., and Cranbrook Sash & Door Co. have all been making important changes, all for the better.

Prince George has been a big lumber producing point ever since the war years. While it has had only one conventional sawmill, the town's "planing mill row", with about 20 planing operations in one area, handles two- or three-inch cants trucked in from the bush by operators of portable mills. The Pas Lumber Co. is one of the leaders in this planing operation. The cants or planks are resawn to size, dried and run through the planers. Much of the production in the Prince George area runs to crating and other industrial material.

Eagle Lake Sawmills at Giscombe is the biggest mill in the area. Until recently it used old-fashioned waggon dollies for yarding, but now it has switched to carriers and straddle trucks, lift trucks and other expediting units.

USE OF IRVINGTON end printers and waxing devices has been another sign of progress in the mills' eagerness to establish the identity of their product.

Trimmers, such as Irvington, have

(Continued on page 110)

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Two Small British Columbia Sawmills

Hope Lumber Co.

• Since Victor Stusiak acquired the Hope Lumber Co., formerly owned by Barwell Brothers and operated as Texas Creek Timber Co., he has made many changes. He and Walter McKenna, formerly superintendent at Kashmir Lumber Co. did all the designing and layout work.

A power bucket was installed to lift logs into the mill. The log stock and loader was converted to air, and the log turner, previously friction operated was also converted to air. Sel-Set electric works supplied through Elworthy & Co., Vancouver, were installed on the carriage.

Where dead rolls had previously been used, live rolls were installed. An air operated timber saw was installed on the live roll case, and live transfers to and out of the edger.

The company plans to install the first barker and chipping plant in the interior of B. C. Present plans call for chips to be transported by truck to a pulp mill.

THE TRIMMER SET UP was changed to allow the installation of arbor motors, and the mill rearranged to accommodate 40 foot timber instead of the previous maximum limit of 24 feet.

The entire mill is now air operated with a Canadian Ingersoll Rand type 40 air compressor using No-Pac and air solenoid valves.

A Salem model 208 friction feedworks has been added and the company designed a timber deck on which there is a swinging boom and one ton electric Yale Towne hoist. All flat belt drives were removed from the mill.

Lumber is moved by Ross straddle trucks and a five ton Bull Moose fork lift.

Logs are purchased from G & F Logging, and transported by truck to a four acre lake where the booms are made up according to species. Alongside the lake and at strategic points in the yard a spur track has been laid down to facilitate the loading of lumber, and which also assists in moving logs from pond to mill.

The company plans the immediate installation of an Allis-Chalmers 54-inch bandmill. Next summer a barker and chipper plant will be installed. The company has obtained over 120,000,000 feet of timber within five miles of the mill, which is located near Hope on the Trans-Canada Highway.

President of Hope Lumber Company is E. McKay, director for Steel Bros. of London England who hold controlling interest in the mill. The acquisition of the Hope mill by the British company marks its first entry into the lumber industry since relinquishing control of one of the largest teak exporting businesses in the world.

Stasiuk operates the mill as manager, with Walter McKenna as assistant manager and superintendent. Mill foreman is J. Churchwell. In the few months of operation the number of employees has steadily increased until the company now employs 30 men.

Merritt Forest Products

• One of the latest entries into the small sawmill field is the new saw and planer mill of Merritt Forest Products located in the interior of British Columbia. The new mill replaces a portable outfit installed on the present mill site in 1954, and started production late in 1955.

Basic consideration was given to maintaining a continuous flow operation, and capacity in the planer mill to not only handle the company's sawmill output, but to handle planing from other mills as well.

The Merritt mill transports logs by truck. Logs are bucked to the 20 foot length, and stockpiled in species to permit fast and efficient flow as customer requirements dictate.

The company uses fork lift trucks

(Continued on page 109)

JOHNSON LUMBER & Building Supply, Ltd., near Williams Lake in the heart of British Columbia's cattle country is an open air planing mill. New Caterpillar D318 powers the planer.

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SOLAR LUMBER CORP., Medford, Ore., operates Mill Engineering's 30-in. "Super" gang headrig processing 55M ft. of small logs per day in one shift. Solar is affiliate of Kogap Ind.

Gang Cuts Small Logs

in combination large and small log mill in southern Oregon

THERE'S A TREND toward supplementing existing band or circular sawmills with log-gang mills.

Kogap Lumber Industries, Medford, Ore., has established a separate but affiliated organization to process small logs. The new firm, Solar Lumber Corp., operates a modern new gangmill which inaugurated production late in 1954. A 6-acre log pond serves the Solar gang; the 100M Kogap band mill has a 5-acre pond. These two ponds interconnect by a flume to permit interchange of logs from one to the other.

Logs in each pond are owned by the Kogap firm. Logs arriving at the plant area are scaled on the truck. Loads predominantly pine or large Douglas fir go to the Kogap pond; small fir loads go to the Solar pond. Subsequently the "misfits" in each pond are transferred via the connecting flume to the other pond. Thus, Kogap's logs are sorted for manufacture into lumber to their highest utility.

This mill operates one shift per day with production averaging about 55M feet. Three men work on the pond, five on mill floor and two on greenchain. Only small logs are processed in the gangmill, mostly Douglas fir and white fir in diameter range of 10 to 15-in. top diameter. These are converted into dimension exclusively—2-in. by 6, 8, 10, or 12-in. The objective, according to Heffner, is to more efficiently process these small logs. Pine and smooth fir logs which will cut out 5% clear, or more, go to the Kogap band sawmill.

It has also been demonstrated in many cases that by cutting the small logs in the gangmill, production in the big log mill is increased 10% or more without adding more men. The overrun is further increased because of the scant sawing in the gangmill.

LONG LOGS IN the Solar pond are cut to length by an L-M electric chain saw. Mill Engineering & Supply Co. furnished most of processing and transport equipment included in this new mill—including bullchain type log haul, mill deck gear, air kickers, air-equipped carriage, 30-in. "Super" log gang, and off-bearing rolls.

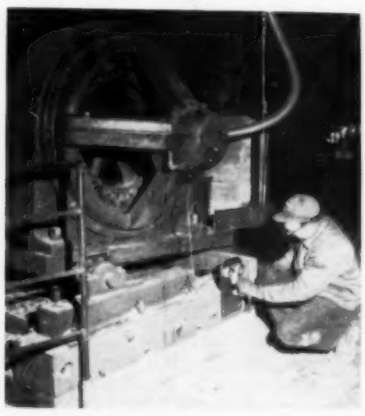
This gang sets on a foundation into which 115 cubic yards of concrete went in a single pour. A 200 hp. G. E. induction motor, mounted on a "swing-type" base drives the headrig through an 18-in. cord Goodyear flatbelt. This unique arrangement, Heff-

(Continued on page 111)

Company Officers

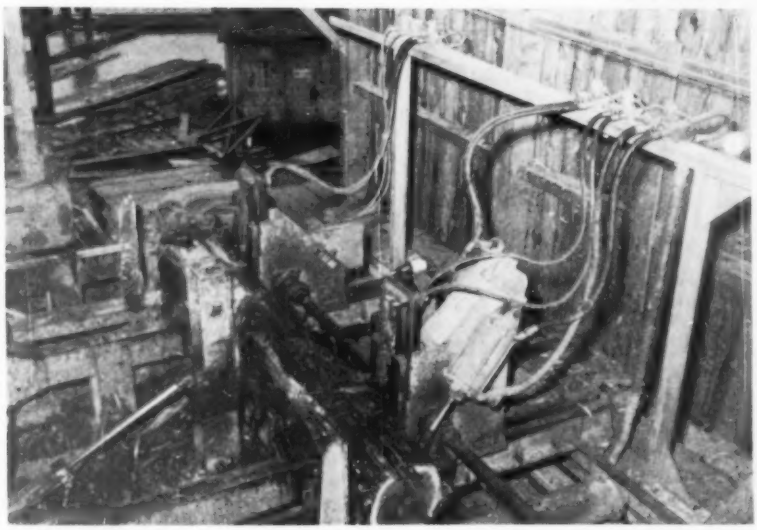
Officers of Solar Lumber Corp. consist of Pres. Jerry S. Lausmann; V. Pres. S. V. McQueen; Sect. A. A. Lausmann; Treas. C. X. Heffner. Jerry Lausmann is general manager and Heffner is mill superintendent.

KLAMATH MACHINE & Locomotive Wks. 6x48-in. edger is powered by 75 hp. motor, converting wane-edge stock into dimension lumber at this efficient small-log processing mill.

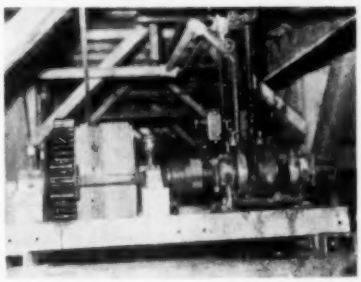


C. X. HEFFNER, Mill Supt., checks thermal couplings indicating bearing temperature of 200 hp. GE induction motor driving gang saw.

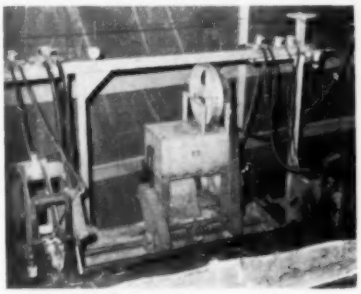
Small Sawmill Review



WALTON LUMBER CO. at Everett, Wash., processes short cedar log in its new small 6-ft. band mill. Auto. carriage has elec. setworks; dogs, tapers, cant flippers are air-operated.



SPEE-D-TWIN Steam Feed Works, run off main mill's steam supply, supplies power for carriage. Adaptation can readily be made.



SETWORKS HAS FALK speed reducer. "Tu-Way" carriage, by Mill Eqpt., Inc., is 16' long, all-steel, with roller bearings; 42" openings.

Small Mill Boosts Cut

of big mill as size and quality of logs decreased in this operation

FACED WITH LOWERED daily production and greatly increased costs, Walton Lumber Co., Everett, Wash., recently added a modern, complete small sawmill which feeds approximately 25,000 bd. ft. of lumber into the main mill flow.

The new addition was engineered by Lionel Pease & Associates of Seattle.

Here's how operation of this unit increases the overall Walton cut:

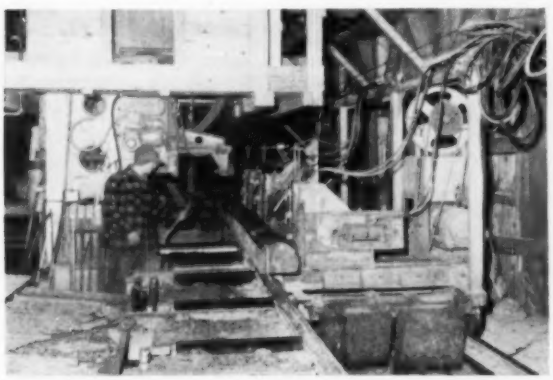
- Diversion of all small logs from main sawmill to new band mill
- Higher percentage of big logs for main mill
- Utilization of small logs and chunks previously left in woods
- Lower per M. log costs
- Higher output per man day
- Utilization of chunks of unpeelable material from nearby plywood plant

As the size and quality of logs decreased and daily production dropped, Walton made several changes in the main sawmill (which has a 10-ft band plus a pony band headrig) that helped bolster production up to the 150M mark. There remained the problem of how to raise the daily cut still further to the original capacity of 200M. A net gain of 50M per day was realized with the new small mill, which cuts 25M itself and also accounts for another 25M increase as a result of larger logs going into the larger headrigs.

MAJOR COMPONENTS of the new small mill are a "Tu-Way" 16-ft. all-steel carriage, "Tu-Way" hydraulic log turner, McDonough 6-ft. bandmill and Soule "Spee-D-Twin" steam feed, all supplied by Mill Equipment, Inc., Seattle. Other equipment includes a Portland Iron Works edger, a Sumner 20-ft. air lift trimmer and a plant-built log haul and deck designed by Pease.

Four men on the mill floor have been turning our 25M per day of fir, hemlock and cedar. The four are sawyer, who operates log deck and carriage; offbearer; edgerman; and

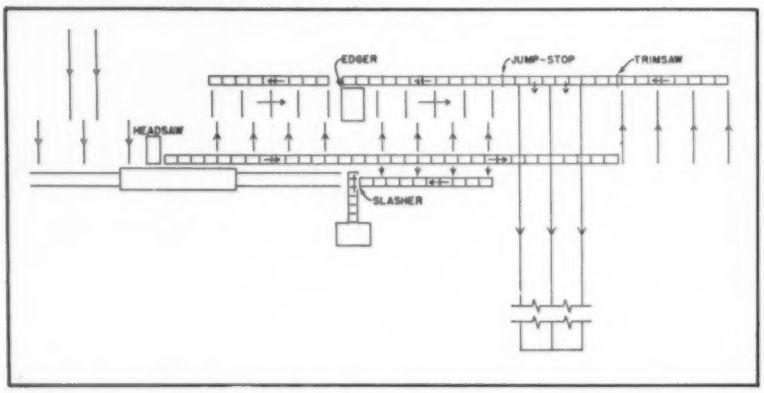
(Continued on page 120)



SMALL LOGS on "Tu-Way" 16-ft. automatic carriage help Walton maintain daily total cut of 200M. Headrig is McDonough 6' band.

PORTLAND IRON Works edger is tended by one of four extra men added to Walton's force, as result of addition of small bandmill.

Small Sawmill Review



DELSON LUMBER CO. mill at Olympia, Wash., has efficient layout and excellent equipment.

KLAMATH IRON WORKS 5-foot band head rig using 15 gauge saws is a feature of the Delson Lumber Co. mill on Olympia's waterfront.

This Mill Uses Planer

with band headrig and gang edger to produce 30,000 bd. ft. per shift

D. WAYNE SMYTH, manager of Delson Lbr. Co., Wayne is enthusiastic about operation of the mill and believes in its potential. He is a graduate electronics engineer.

A PASSER-BY WOULD not pick the Delson Lumber Company's sawmill on the waterfront at Olympia, Wash. as one of the most outstanding of its type in the Puget Sound area. Excellently equipped, managed and operated, it is actually a "big" small mill, because on a two-shift basis it produces around 60,000 board feet of lumber per day. The mill has been expanded and enlarged and more additions are in prospect. Starting all over, the owners could provide a more efficient layout, but they are doing quite well with what they have.

The mill has a 5-foot Klamath Iron Works band head rig powered with a 150 hp. motor. Logs are lifted from saltwater sidewise on a lift. The mill has a Salem feed works and is operated without offset; the 15 gauge saws have sliver teeth. For the most part logs are canted on the head rig and go at once to a Schurman 8-in. gang edger. There is a one-saw automatic slasher on the mill floor to cut up the slabs. The 2-in. stock from the gang edger moves out of the mill on a roll case which takes it to a two-saw knee operated hula trimmer. This efficient company planned trimmer enables the operator to operate both saws at once and does practically all the trimming needed.

Some 500 hp. is required to operate the plant. All units are electrically operated from purchased power.

Lumber is pulled off the green chain and piled in carrier units, which are taken directly to the planing mill, by a Gerlinger carrier. A Gerlinger built lift carrier is also used in handling packages and loading trucks.

THE MANAGEMENT BELIEVES in providing the small mill with first class planing facilities. Most of the dimension put through the S. A. Woods planer is pulled off the sorting chains, carefuffilly graded and put up in even length packages. This practice results in attractive units and packages, easy to handle and strappable if necessary.

A large percentage of Delson's cut is shipped by water to domestic markets, a market which affords an outlet for a large amount of lumber with a minimum of sales effort. Since the volume of production is quite large, good buyers are interested in handling the product.

All lumber is end stenciled. The lot number appears on each piece.

A Gardner-Denver and Sullivan compressor produce 500 cubic feet of air. Air is used for many purposes, including nigger, log lift and slasher, carriage equipment, and various air lift transfer chains. It is also a very valuable tool in keeping machines and mill clean.

The filing room is equipped with a late model Armstrong automatic grinder.

WHILE THE AVERAGE output of this mill is about 30,000 feet per shift

(Continued to next page)

SCHURMAN 8-INCH gang edger makes 2-inch stock out of cants.

TWO SAW knee-operated hula trimmer is company-planned.

the mill has cut 42,000 feet in eight hours.

The intelligence and enthusiasm of its management are standout features of this operation. The Delson Lumber Co. is owned by Delta V. Smyth, pioneer Olympian and operator of a tow boat company and his son, D. Wayne Smyth, who manages the operation. The latter is a graduate electronic engineer and until he joined his father in the operation of the sawmill was with the Westinghouse Mfg. Co. His enthusiasm for really doing something with the sawmill has not been lost.

"I have found this business tremendously fascinating," Mr. Smyth told THE LUMBERMAN. "To run a business like this, because of its size, one has to be constantly aware of every facet of the operation. Here are a few of the many things that the management of a business like this must do:

"Provide an adequate supply of logs, controlling the timber whenever possible.

"Get all the volume possible out of the sawmill, keeping in mind always that lumber must be well manufactured, which will attract buyers more easily than poorly manufactured stock.

"Do all the manufacturing feasible. I consider planing facilities a 'must' and the planer should be operated to the fullest possible capacity.

"I also believe that the time will come, and soon, when whole log barking equipment at mills such as ours, will be worthwhile and a 'must'. And this will be followed by chipping equipment.

"THE MORE LUMBER we have to sell and the better it is manufactured, the more we will automatically attract a good class of buyers. Many mills, because of their location, can sell much of their lumber FOB mill to retailers. That's a good outlet. Our location enables us to sell the bulk of our production for shipment by water, mostly to the Atlantic coast. The location of the mill is of important consideration in launching a small mill enterprise. Some may find one market fits his operation and another will like a different outlet.

"Grade is important but not all-important. Mills like ours cutting the type of logs available cannot hope to produce any large percentage of clear. But we can study our log supply as between salvage material and second growth and then formulate a program which bests fits each individual situation and market outlets.

"I'm convinced that the way to make a success of a business like this is to do everything possible with the plant one has, to keep it competitive. Throughout the operation we must develop, augment and maintain every possible advantage."

More Small Sawmill Features on page 104

B. C.'s SPROAT LAKE area is where Tommy Hamilton logs out small, scattered areas for MacMillan & Bloedel, Ltd. Using Caterpillar SJ4, he sends 100 logs per day 22 miles to dump.

TOMMY HAMILTON beside truck being loaded at his "corner" of Thunder Mt. claim.

Tommy Hamilton Cuts Profit-Making Corners

CUTTING CORNERS is Tommy Hamilton's business—the corners being scattered sections of a logging claim too awkward for a larger operation to handle expeditiously and profitably.

Hamilton's logging contract with MacMillan & Bloedel Ltd., in the Sproat Lake area of Vancouver Island, near Port Alberni, demonstrates how a small independent logger can work with a big company to mutual advantage.

In planning development of the larger company's forest area on Thunder Mountain several corner sections didn't lend themselves to individual handling. They weren't big enough to justify the larger company in establishing a new setting with spar tree and high-lead or using any of the other heavy equipment that normally would be put into action on a similar job on a larger scale.

So Hamilton offered to clean up the corners with his own relatively lightweight and highly mobile logging units, consisting of a Caterpillar SJ4 and a Caterpillar D6 with Hyster arch.

Hamilton is a representative of a growing number of small loggers who are making a nice profit by working on the fringe of the larger developments with equipment particularly well suited to their type of operation. In somewhat the same category are Taylor Bros. in the Duncan district and Turner Bros., contract loggers near Nanaimo, both outfits using SJ4's as key units.

"THIS ISN'T BASICALLY a salvage operation," Hamilton said when his operation was visited recently. "We handle all classes of logs. The timber that is big is first class stuff, but it just happened that there wasn't enough of it in this particular piece of country to warrant the big company sending in its rigging crews to do the job itself.

"But for us the setup is made to order, and we're taking out logs at the rate of 4,000,00 feet a year—mostly Douglas fir and hemlock—with a crew of only four or five men. We employ only three men on the SJ4 and that includes operator as well as loader."

Trucking is done by contract. Two trucks, a Mack B6100, with 175 h.p. Cummins diesel and a GM Isherwood & Son, hauling contractor.

The roads were built for him by MacMillan & Bloedel. Primarily it is a yarding and loading operation. In an average day about 100 logs are sent over the 22-mile run to the dump at Shoemaker Bay.

Hamilton has been working the same "corner" for the past two years, and there's quite a bit of timber yet to be moved.

NEW OFFICERS: From Left: 1st vice-president GEORGE C. FLANAGAN; retiring president EMMIT R. ASTON; treasurer CHARLES S. COWAN; president JOHN E. LIERSCH; forest counsel STUART MOIR; secretary GEORGE S. LONG, JR. WFC was held at Portland, Ore., this year.

Conference Officers

President: John E. Liersch, Powell Rvr. Co., Ltd., Vancouver, B. C.
First Vice Pres.: George C. Flanagan, Elk Lbr. Co., Medford, Ore.
Vice Presidents: George Neff, Anaconda Copper Mining Co., Bonner, Mont.; Louis Frandsen, Southern Pacific, San Francisco, Calif.; Corydon Wagner, St. Paul & Tacoma Lbr. Co., Tacoma, Wash.; J. M. Brown, Jr., Pack Rvr. Lbr. Co., Sandpoint, Idaho; Ross Douglas, Alaska Pine & Cell., Vancouver, B. C.
Management Committee Chairman: E. F. Heacox, Weyerhaeuser Tbr. Co., Tacoma, Wash.
Forest Counsel: Stuart Moir, Portland, Ore.
Secretary: George S. Long, Jr., Weyerhaeuser Tbr. Co., Tacoma, Wash.
Assistant Secretary-Treas.: Carl V. Hersey, Portland, Ore.
Treasurer: C. S. Cowan, Washington Forest Fire Assoc., Seattle, Wash.

Foresters Review Progress

in the western states at the 46th annual Western Forestry Conference

PROGRESS OF FORESTRY in the West was reported at the 46th annual Western Forestry Conference held in Portland, Ore. on Dec. 7-9. President Emmit R. Aston, Biles-Coleman Lbr. Co., Omak, Wash., presided over the sessions, which drew over 500 tree growers. Program arrangements were handled by forest counsel Stuart Moir, Portland, Ore.

Emmit R. Aston opened the conference with a warning that 4,500,000 private timber owners in the nation who own 60 percent of the forests must be taught the wisdom of wise management. Large timber firms, with their tree farm programs, and the federal government own only 40 percent of all commercial forests.

Forest Counsel Stuart Moir referred to the recent congressional forest hearings as "pointing out many glaring weaknesses in administration and operation of federally-owned forest lands." But he added that improvements being made in timber management on both private and government lands point to a continuing supply of trees for increased future demand if improved standards are made effective.

MOIR STRESSED THE need for adequate forest inventories, revisions of allowable annual cuts consistent with land productivity and current utilization standards and more accurate timber appraisal methods.

At the opening session a promise that the federal government will "bring all the national forests under full sustained yield and management at the earliest possible time" was made to the foresters, timber owners and mill operators present by Ervin L. Peterson, assistant secretary of agriculture, Washington, D. C. "It is our objective for fiscal 1956 to cut 6,750,000,000 board feet from national forests and to increase it even more in 1957," said Peterson.

The 1955 fiscal year cut will be over 6,300,000,000 feet and for 1954 it was 5,400,000,000, he pointed out. Other points Peterson stressed included reinventory work to be stepped up to a three-year basis here instead of the planned 10-year program, pushing "as rapidly as possible" to completion of a transport system on each national forest, a more intensive research program, improved physical facilities for the forest service, adequate recreational facilities ("and private forests need to understand fully the impact of recreation use of forested areas") and continuing attention to interest of naturalists and associated groups in certain national forest areas.

The Association of State Foresters has the collective and the state foresters the individual state responsibility to see that forestry progresses in all regions and on all levels, emphasized A. D. Nutting, Forest Commissioner of Maine and currently president of the National Association of State Foresters.

On the pest control front, Nutting declared that stepped-up detection and research programs are needed. He believed that detection and control should be administered by state for-

OPENING SESSION speakers. From left: A. D. NUTTING, State Forester, Maine; forest counsel STUART MOIR; pres. EMMIT R. ASTON; ERVIN L. PETERSON, Assist. Secretary of Agriculture.

ESSAY WINNERS. From left: 1st prize award, GEORGE BROCK, U. of B. C.; Dean GEORGE S. ALLEN, Univ. of B. C.; Dean W. F. MCCULLOCH, OSC School of Forestry; 2nd prize, GERRY W. KELLY.

FOREST PROBLEMS PANEL. From L.: J. W. BONGBERG, U.S.F.S.; F. H. RAYMOND, Calif. State Forester; J. G. ROWBURY, Scott Paper Company; ROYCE G. COX, Potlatch Forests, Inc.; CONRAD WESSELA, U.S.F.S.; ROGER L. GUERNSEY, Idaho State Forester.

FOREST PROBLEMS PANEL. From L.: H. G. MCWILLIAMS, B. C. For. Serv.; GEORGE SCHROEDER, Crown Zellerbach Corp.; H. F. THOMAS, Valsetz Lbr.; DAHL KIRKPATRICK, U.S.F.S.; L. T. WEBSTER, Wash. State Forester; G. H. HANSEN, Fish & Wildlife Service.

estry agencies. Federal funds should be made available to states to assist and encourage them to establish needed programs. Maine now has 8 technically trained entomologists and biologists, supplemented by 6 insect rangers.

Forest Problems of the West

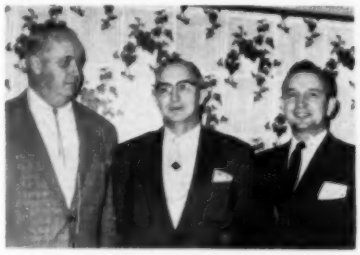
A panel of state foresters and industry and federal representatives, chairmaned by R. A. Colgan, Jr., Shasta Forest Co., Redding, Calif., discussed forest pests, game and animal damage, problems of restocking and the adequacy of existing laws.

Bug fighters feel flushed by major victories because epidemic infestations are down to 2.2 million acres from 7.7 million acres in 1954, reported state forester Roger L. Guernsey of Idaho.

"But don't sell the forest fire problem short. Fire is still the most destructive enemy of the forest," cautioned Guernsey.

A diversion of more technically trained personnel or overhead to combat forest insects more effectively was urged by J. G. Rowbury, Scott Paper Co., Everett, Wash. He drew an analogy between the technically trained men required by the pulp industry to process a given amount of logs and stated that if a similar ratio of scientists to board feet were used by bug fighters, the battle could be won on the research front.

TREE DISEASES IN the West cause an estimated annual mortality of 890 million board feet and a loss to growth of about 3.4 billion board feet, a total loss impact of 4.3 billion feet, reported F. H. Raymond, state forester of California, Sacramento.



FOREST PROBLEMS PANEL. From L.: W. R. SCHOFIELD, Calif. Forest Protective Assoc.; DWIGHT L. PHIPPS, Oregon State Forester; EARL PLOURDE, Assist. State Forester, Ida.

Conference Awards

EMANUEL FRITZ, professor emeritus, School of Forestry, Univ. of Calif., Berkeley, Calif., won the 1955 Western Forestry Award. The plaque was awarded to Fritz ("Mr. Redwood") in recognition of distinguished achievement in the field of forestry. Fritz founded the Redwood Region Logging Conference, is consulting forester for the Calif. Redwood Assoc. and has made many contributions to the advancement of redwood management. BEN S. ALLEN, California Redwood Assoc., was presented a trophy for the outstanding work of the Keep Green committees in the Redwood Region, particularly in the recent poster contest among schools.

First essay prize went to ROBERT BROCK, Univ. of British Columbia, for an essay on use of aerial photographs. Second essay prize was received by GERRY W. KELLY, Oregon State College, Corvallis, Ore., for an essay on the need for better public information by the forest industry. The contest is conducted annually among college forestry students.

"As villains, diseases are responsible for over 10 percent of the mortality in western stands and about 65 percent of all growth losses. The annual growth loss is equivalent to 22 percent of the 19.7 billion board feet of lumber produced in 1952. This represents a value of $64.5 million", said Raymond.

Pole blight is the "mystery" malady of the Inland Empire, said Royce G. Cox, Potlatch Forests, Inc., Lewiston, Idaho. It attacks white pine stands up to 125 years of age. There are 740,000 acres of pole size stands in the area, of which about 92,000 are heavily pole-blighted. The disease is hard to recognize in the early stages and control methods have been discouraging. PFI has engaged a full-time man to do research on the disease.

White pine blister rust is a tree disease which for over a period of thirty years has been put through the wringer for basic research, economic evaluations, practicality of control and intensive planning, reported Conrad P. Wessela, U. S. Forest Service, Portland, Oregon.

"WE'VE DONE A POOR job in making resource managers aware of the facts about white pine management. As a result, they're shying away from the species for forest management purposes. Actually, under certain forest conditions the control program is very effective and well within the profit margin of growing white pine," said Wessela. He advised foresters to take a second look at the white pines.

Mice, rabbits, mountain beaver, porcupine, bear, deer and elk were

MORE FOREST PROBLEMS Panel. From L.: ROY F. MORSE, Longview, Wash., moderator; W. F. SANDERS, Oregon St. For. Dept.; JOHN B. WOODS, Jr., John B. Woods & Son; W. W. WOODS, First Natl. Bank, Montesano, Wash.; CORYDON WAGNER, St. Paul & Tacoma Lbr.; H. C. ANDERSON, Col. Basin Interst. Compact Comm.

COMPETING LAND USES Panel. From L.: EDWIN F. HEACOX, Weyerhaeuser Tbr. Co.; WALLER H. REED, Collins Almanor Forest; VIRLIS FISCHER, Sierra Club; W. D. WELSH, CZ Corp.; moderator; BILL REAVELEY, National Wildlife Fed.; JOHN BIGGS, Game Dept., Washington; JOSEPH PENFOLD, Izaak Walton League.

NEW SUPPRESSION equipment. From L.: THOMAS ORR, WTCo.; E. E. SILVA, U.S.F.S.

R. A. COLGAN, JR.
Panel Moderator

CHAS. S. COWAN
Panel Moderator

GORDON MARCKWORTH
Banquet Speaker

COOPERATIVE FOREST Protection. From left: L. L. SIMPSON and A. B. CURTIS.

listed as insidious forest saboteurs by L. T. Webster, Supervisor, Washington Div. of Forestry, Olympia.

During the past two years, deer and bear have seriously damaged young trees on the 25,000-acre Valsetz tree farm in central western Oregon, H. F. Thomas, Valsetz Lbr. Co., Valsetz, Ore., reported.

Discussing the use of animal repellants on seed, G. H. Hansen, Fish and Wildlife Service, Portland, Ore., stated that WLR2 seems to offer promise as a substitute for tetramine. Rabbit repellants are effective for only one year. No repellants have been developed for deer and elk. He stated that methods for measuring animal density on an area are needed.

"Can we wait for natural regeneration to restock forest lands and thereby lose many acres to deciduous cover, plus the several years of possible tree growth while waiting for a good seed crop?", asked H. G. McWilliams, B. C. Forest Service, Victoria, B. C.

"Planting or seeding following logging may be necessary on short rotations where a certain kind of tree is required by a manufacturing plant. It may be cheaper to clear cut and plant, rather than wait for natural seeding," declared McWilliams.

GEORGE SCHROEDER, Crown Zellerbach Corp., Portland, Ore., stated that restocking problems have about halved in recent years because of better logging practices and better forest protection.

He said that recent high seed costs have taken much of the attractiveness out of aerial seeding of nonstocked forest areas by helicopter, but this method is still a valuable tool when favorable seed bed conditions exist.

Forest managers are too complacent about restocking on cutover land in the ponderosa pine type, accused Dahl J. Kirkpatrick, U. S. Forest Service, Albuquerque, New Mexico. "Advance reproduction usually present in pine stands deserves more protection from logging and slash disposal damage than it generally receives."

Kirkpatrick reported several promising developments in artificial reforestation. These include seed treatment to repel rodents, including tetramine (now withdrawn) and WRL2; better planting site preparation by furrowing, brush elimination and grass scalping; using superior quality planting stock and selection of the most suitable planting season.

INDUSTRY SUPPORT HAS been responsible for much of the progressive forestry legislation in Oregon and other western states, declared Oregon's State Forester Dwight L. Phipps.

"The present system of forest patrol assessments is developing definite drawbacks," stated Phipps. "Costs of protection have reached the stage where this assessment is far larger than the income from much of the low valued land. Unless there is some form of relief it is likely that a considerable area of land will go back to the county."

Resolutions

The conference passed resolutions:

- Urging speedup of forest inventory work by the USFS in Washington and Oregon, plus a detailed reinventory during the next three-year period.
- Asking for full allowable annual cut on USFS and O&C lands, plus more access roads and hiring more timber sale personnel.
- Endorsing Oregon's "Red Hat Day" as a forward step in bettering relationships between private landowners and recreational users.
- Urging research agencies to give more attention to studies of methods of control of forest pests.
- Requesting more fire research by USFS experiment stations, private industry and state agencies.
- Asking the U. S. Weather Bureau to improve fire-weather forecasting.
- Recommending creation of a 235 million acre fire prevention and control district on public domain land in Alaska.

The close cooperation that has existed between state government and the forest industries is an indication that the western states have adequate forestry laws, said W. R. Schofield, Calif. Forest Protective Assoc., San Francisco. Commenting on Oregon's severance tax on timber to provide emergency fire fighting funds, Schofield stated timber owners in his state oppose such a tax. He said the owners fear legislation providing for such a tax might "get out of hand."

In referring to Idaho's Reforestation Law, A. Earl Plourde, ass't. state forester, Coeur d'Alene, said only about 150,000 acres are now under the act and only a section has been added in the past ten years. The law fails to provide incentive and actually penalizes the tree farmer who elects to come under the act. He said the state had too few foresters to adequately supervise the act.

Forest Protection

With C. S. Cowan, Washington Forest Fire Assoc. as chairman, this panel reviewed new suppression equipment, cooperative forest protection, fire, weather forecasting and the Clarke-McNary Law.

Reviewing the 1955 fire season, Cowan reported 8,752.4 MBM timber burned, with 3,341.3 salvable. Average acreage per fire was 33.82 in Ore.; 2.43 in Wash.; 86.00 in Calif.; 3.94 in Idaho; 0.60 in Montana and 33.74 in British Columbia.

A total of 8,107 fires burned 433,775 acres. Logging fires totaled 418, lightning 3,232, recreation 1,344 and incendiary 295. Ninety percent of the acreage burned was due to incendiarism, miscellaeous and land clearers, causing 1,880 fires burning 314,158 acres.

A look ahead was given by E. E. Silva, U. S. Forest Service Equipment Development Center, Arcadia, Calif.

PREDICTIONS MADE by Silva include: a more comprehensive basis for estimating fire behavior; a better understanding of cloud formations as related to lightning, wet or dry storms and wind action under clouds; microclimate studies; chemistry applied to practical use of retardants; electronics

CLARKE-MCNARY. Fr. L.: BERNIE ORELL, Wey. Sales Co.; DEWITT NELSON, Calif.

PAUL PATTERSON Welcome from Ore.

EDWARD E. BAILEY Prize Winner Returns

FIRE WEATHER Forecasting. Fr. L.: M. A. MOSAR, CZ; NELS. JEFFERS, Weyerhaeuser.

used in infra-red sensing devices, automatic television scanning cameras and weather recording through telemetering equipment; plastic instead of steel water containers.

A cooperative fire plan which covers about 2 million acres of forest area in Jackson county, has proved effective in getting fast action on forest fires, according to L. L. Simpson, Southern Oregon Conservation and Tree Farm Assoc., Medford.

Simpson described the 7-point plan in detail. It was formulated in 1952 by a Fire Committee representing principal timber operators in the southern Oregon area. Some 50 members have entered into the agreement.

FIRE PLANS HAVE been improved and more time is spent in organization and planning work than ever before, according to A. B. Curtis, Clearwater Timber Protective Assoc., Orofino, Idaho. Each logging operator has a fire plan. Each employee knows his job. All equipment is catalogued. Crew organization is set up to use logger skills most effectively. Tool caches have been properly placed. Logging equipment is inspected regularly to prevent its being a fire setter. Training schools are held. Fire Protective Assoc. personnel meet with men of the logging industry in an annual joint conference.

Two speakers agreed that the Section 2 of the Clarke-McNary Act, providing for federal participation in the costs of protection from Forest fire was not a subsidy.

DeWitt Nelson, Dept. of Natural Resources, Sacramento, Calif., advocated continuation of federal participation in protecting forest lands not federally owned. Section 2 of the Act provides for federal cooperation and participation in the cost of forest protection up to a maximum of 50 percent of that cost.

BERNARD L. ORELL, Weyerhaeuser Sales Co., St. Paul, Minn., drew a clear distinction between sections 2 and 4 and 5 of the Act. Section 4 provides for reforestation and Section 5 for Extension Forest Education. These come within the realm of subsidies. They should be continued only as long as they have served the purpose of providing incentives. Then the states should assume the responsibility of carrying on the work.

ONE OF DISPLAYS featured modern instruments used in present fire weather forecasting.

Orell stated that Section 2 is well justified. The Clarke-McNary authorization presently is $20 million. Orell suggested that the federal contribution be held to 25 percent and that the state and private agencies contribute 75 percent. The state and private agencies then could develop their respective programs to meet that level.

A reliable means of measuring and forecasting the cumulative effect of dry weather on fuels in green timber is not yet available for use in fire weather measurements declared D. N. Jeffers, Weyerhaeuser Timber Co., Longview, Wash. On the company's St. Helens tree farm near Longview, sound weather forecasts are combined with records of local field measurements.

"Last year we had 80 sling psychrometers to measure humidity—used by foremen, bullbucks, hookers, foresters and other supervisors," said Jeffers.

MERLE A. MOSAR, Crown Zellerbach Corp., Cathlamet, Wash., described how high level weather exchange, a system adopted by CZ, plays an important role in accumulating the data which may mean that logging crews "shut-her-down" the next day because of high risk.

USE OF TELEVISION in forest management was demonstrated to delegates at the meeting.

Seven lookout stations in Northwest Oregon and Southwest Washington supply these measurements of actual conditions, collected daily at 5:10 A.M. and 7:45 P.M. It is rebroadcast to all company divisions at 5:30 A.M. and 8:00 P.M. The final forecast is thus the integrated result of several forecasts.

More Forestry Problems

Radio, forest credits, and financing of forest pest control were topics discussed by a panel moderated by Roy F. Morse, Longview, Wash.

Forest pest control should be financed on a continuing basis, like forest fire control, instead of on a piecemeal system, epidemic by epidemic, recommended John B. Woods, Jr., John B. Woods & Son, Salem, Ore., in his appraisal of insect damage to western forests.

He recommended increased federal and state appropriations for surveys and regular control activities, more funds for research, legislation similar to the Clark-McNary Act to recognize public participation, annual assessments against commercial forest lands for forest pest control, establishment of emergency funds to be built up and continuation of national, regional and local forest pest action committees to coordinate activities.

Through leasing arrangements, telephone companies classed as common carriers are trying to get control of radio channels assigned to forest industry firms for fire protection and operational purposes, alleged William F. Sanders, Oregon State Forestry Dept., Salem, Oregon.

Sanders said an attempt is being made to "entice" industrial firms using radio to lease communications equipment and maintenance service from the common carrier telephone companies. He charged that the common carriers hope to show the Federal Communications Commission that radio frequencies for industrial firms should be abolished or reduced in numbers. This would be done, Sand-

(Continued on page 122)

ALASKA PLYWOOD CORP.'s first piece of veneer. At left, Gov. FRANK HEINTZLEMAN and THOS. A. MORGAN, Alaska Ply. pres.

◄GREEN END of Alaska Plywood Corp. plant at Juneau features two automatic Coe clippers. Production is at rate of 3 million sq. ft./mo.

Plant Produces Spruce

plywood and ships it from Juneau, Alaska to Puget Sound by boat

Editor's Note: This is the third in a series of staff-reported articles obtained by THE LUMBERMAN on the forest industries of Alaska. Another in the series will appear in the next issue.

ALASKA'S FIRST PLYWOOD plant, Alaska Plywood Corporation at Juneau, has successfully completed 2½ years' operation in the face of many serious problems.

It is a tribute to the management of this company that its products have been able to fill a niche in the market during a period when the softwood plywood industry has established record highs in volume, variety and quality of plywood.

When the new mill opened in late 1953 two men witnessed the fulfillment of long-held dreams: Tom A. Morgan, president of Alaska Plywood Corp. and the parent company, Columbia Lumber Co., and B. Frank Heintzleman, now Governor of Alaska, and for 17 years Regional Forester of Alaska. Morgan, who has operated sawmills in Alaska for 27 years, had long planned to establish a modern plywood plant to round out his forest enterprises, while Gov. Heintzleman, the ardent advocate of more industries for Alaska, saw another major plant go into regular production.

Alaska Plywood Corporation differs from all other plywood plants in its corporate set-up. It is a cooperative, but probably the only cooperative in the industry with a definite incentive plan.

Readily Accessible by plane, Juneau is not ideally situated for production of a bulk item like plywood that has to be shipped 700 miles by water to Puget Sound before it is put on the railroad. And nearly everything that a plywood mill needs in quantity such as man-power, materials and power comes at a premium.

To offset this economic barrier of great distance and costly production, Alaska Plywood Corp. offers something special: 100% production of lightweight, strong and light-colored Sitka spruce panels.

The modern plant, located on Juneau's waterfront, is producing these panels at the rate of 3,000,000 sq. ft. per month, 36 million a year. It is equipped with many of the latest veneer upgrading machines and has a General Electric amplidyne drive on its 135" knife Coe veneer lathe.

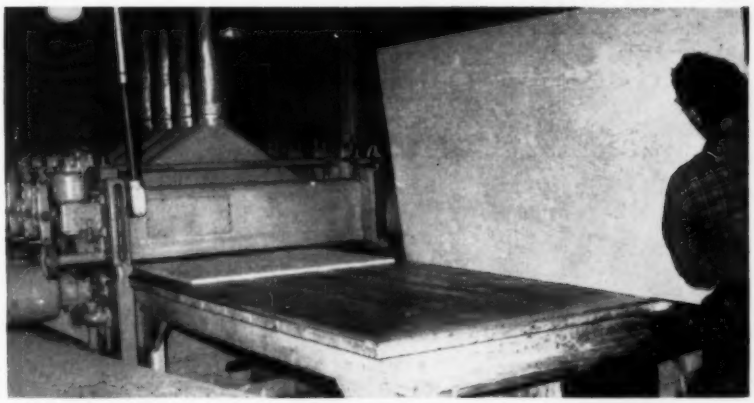
Main sizes produced are ⅝ and ¾". These thicker sizes consume a greater amount of the lower grades of veneer, excellent for cores but not of face quality.

Veneer drying is on a stepped-up schedule that requires additional capacity over and above that obtained with the Proctor & Schwartz dryer in the plant, so the dry kilns of the adjacent Columbia Lumber Co. sawmill are used for the drying of additional

◄NICHOLSON BARKER barks spruce peelers at Alaska Ply.'s new Juneau plant. This first Alaska plant has long-range supply of old growth Sitka spruce for use in producing light durable panel of high quality plywood.

KEY MEN in maintaining production rate of 3 million sq. ft. per month are (L to r) JACK CLARK, green operations super, ELMER BROWN, plant supt., and LEON WARRICK, sander & shipfore. ►

COE LATHE with 135" Simonds knife, 110" swing with GE elec. drive, amplidyne controls.



NOTE EXTREMELY light-colored surface of this ¾" AD panel, just removed from the Yates-American eight drum sander in operation at Alaska Plywood by Sanderman, NED KIRKLAND.

core stock. This practice is considered unique in the plywood industry today. As much as 138,000 sq. ft. of veneer has been peeled in a single shift on the green end.

The dryer is distinctive: circulation of air is at all times concentrated at the veneer line. It is also so designed that loose knots cannot get caught in the line and crush the veneer while passing through the rollers.

Possibilities for specialty panels are good. Alaska Plywood Corp. has tried making some cottonwood-faced panels and these have turned out successfully. Extensive stands of birch farther north in Alaska pose a possible source of highgrade face veneers. There is also the possibility of hemlock interior panelling. Some hemlock is used for core according to specifications of the commercial standard.

For stateside markets, the U.S. railroads and the Alaska Steamship Co. have combined to offer through rates for plywood shipped to Seattle and trans-shipped to eastern markets by rail. The extra charge amounts to 55c per 100 lbs.

There is an incentive plan for employees based on production. In addition to base wages, a 7½c per hour bonus is paid for veneer production over 85,000 sq. ft. daily, 10c for over 100,000 sq. ft., 12½c for over 105,000, and 15c for over 110,000. The company's contract with the union calls for a guaranteed 36 weeks of work per year.

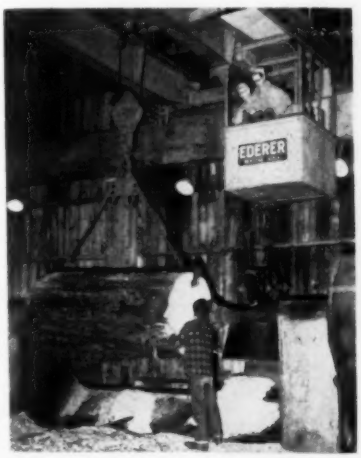
Company Personnel

Key men in the organization are:
President: Tom A. Morgan.
Vice President: Norman Sommers.
Sales Manager: J. C. Dodd.
Plant Supt.: Elmer T. Brown.
Sander and shipping foreman: Leon Warrick.
Swing shift foreman: Sam Renhard.
Graveyard foreman: Ben Nowacki.
Purchasing agent, office manager, Seattle, Wash.: Roy C. Avrit.

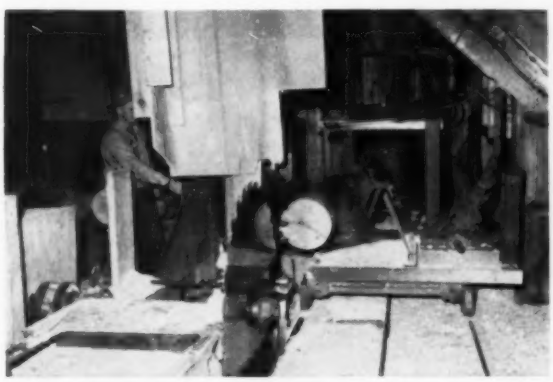
Logs from Many Sources

Although in a country with many millions of board feet of prime Sitka spruce timber, log procurement is not a routine affair. The best spruce stands are located 200 miles to the south in the general vicinity of Ketchikan. Major suppliers are Hawkins Logging Co. on Tuxecan Island and the L-O-G Logging Co. at Fisherman's Harbor on Kosciusko Island. L-O-G is one of the newest operators in Alaska, having started logging a large Columbia Lumber Co. sale in mid-1955. All their equipment, including machinery

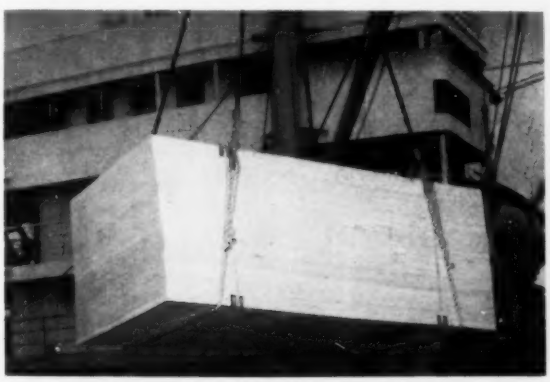
(Continued on page 136)



EDERER BRIDGE crane lowers spruce peeler block for Coe lathe that chucks hydraulically.



EXTRA VALUE and utilization are realized with this small mill that cuts peeler cores into 2x4's at Alaska Ply. Simonds 7 ga. 45" circular saw, four 14" horizontal saws produce about 3M per shift.



STEEL-STRAPPED UNITS of light spruce plywood panels are shipped from the Juneau plant to Seattle via steamship. A special rate for steamer-to-railroad has been established.

STATE FORESTER DWIGHT PHIPPS of Oregon (left) and L. T. WEBSTER of Washington (right) put Keep Washington Green tie on State Forester A. D. Nutting of Maine, president of the Association of State Foresters, at 46th Western Forestry Conf., Portland, Ore.

TROPHY AWARD WAS presented to BEN S. ALLEN (right), Redwood Region Cons. Council, by EMMIT R. ASTON, president of 46th Western Forestry Conference, in Portland, Oregon, for outstanding Keep Green activities in Redwood Region, including poster contests.

WESTERN FORESTRY Award for distinguished service to forestry was presented to EMANUEL FRITZ (right), forestry professor emeritus, Univ. of Calif., at 46th annual West. For. Conf. Left: Conf. pres. E. R. ASTON.

ERNEST G. SWIGERT, pres., Hyster Co., Portland, Ore., was elected vice-pres. of Natl. Assoc. of Mfrs. recently. Post puts him in line for pres. next year.

KEEP AMERICA GREEN workers hold annual meeting at 46th annual Western Forestry Conference, Portland, Ore. Standing, from left: ARTHUR K. ROBERTS, WCLAssoc.; WM. FAIRBANK, K.Cal. G.&G.; W. F. MYRING, Can. For. Assoc.; A. D. NUTTING, Me. State Forester; HARRY WOODWARD, S. Dak. St. Forester; R. A. TRZUSKOWSKI, KldG; DALE THOMPSON, KWG; DAVE JAMES, Simpson Log. Co.; DON STICKNEY, U.S.F.S.; C. HOONAN, AFPI; IRV LUITEN, WTCo. Seated, fr. L.: J. R. GALLAHER, W. Cons. Journal; CHAS. OGLE, AFIof Ore.; ALB. WIESENDANGER, KOG; BEN S. ALLEN, Calif. Redwood Assoc.; W. HUBBARD, KCG; MIKE LAZARA, KWG.

CARL A. RISHELL, newly elected vice-president of Timber Engineering Company, Washington, D. C., and an authority on foreign and domestic wood particle board, examining specimen of the newest forest product developed through research in wood utilization. He will direct TECO's particle board development services and facilities, now being broadened in a $200,000 laboratory expansion program that includes a particle board pilot plant.

DE WITT NELSON, director of the California Department of Natural Resources, Sacramento, was elected president of the Society of American Foresters last month. He succeeds Elwood L. Demmon. Nelson is a 1925 forestry graduate of Iowa State College, has served with the U. S. Forest Service and was State Forester of California. George A. Garrett, who is with the Yale University School of Forestry was elected vice-pres. of the Society.

To the man who's thinking about buying a new truck:

maybe you're missing something...

➢ And what you're missing is more than "maybe," it's for *sure*—if you haven't yet visited your Dodge truck dealer.

➢ Do you want to miss a *rock-bottom price?* Perhaps you haven't realized that Dodge trucks actually cost *less* than you'd pay for corresponding models of most other makes.

➢ Do you want to miss *power* so high it leads the field? Consider this: with engines of 169 to 175 horsepower, Dodge overpowers *every other leading make of truck* in the low- and medium-tonnage fields.

➢ Surely you don't want to miss the many advantages of "*Job-Rated.*" Because all units from engine to rear axle are engineered and matched for a specific job, the Dodge truck you buy is exactly *right* for your business.

➢ You don't want to miss Dodge safety—which includes the biggest wrap-around windshield of any truck on the road, the shortest turning radius. Or Dodge superior cab comfort . . . Forward Look Styling.

➢ In short, you get a whale of a lot more truck for a good deal less money than you think! Stop in and see your Dodge truck dealer right away—don't miss *anything!*

DODGE Job-Rated **TRUCKS**
WITH THE *FORWARD* LOOK ➢

CANADIAN FOREST Products, Ltd., tree farm at Sechelt, B. C., has visitors who inspect the thinned out area, comprise 40 acres of 70-yr. old timber.

KEY MEN IN Canadian Forest Products tree farm operation. L. to R.: ROY JEWESSON, ED MULOCK, Canadian Forest Prod. foresters; GEORGE MILLER, Shingle bolt contractor, and MIKE JACOBSON, log contractor.

Thinning Methods Are Tried

on second growth stand in British Columbia dedicated as tree farm

A 2561 ACRE CROWN grant forest of second growth fir, hemlock and cedar in an area destroyed by fire over 70 years ago, was formally dedicated as a tree farm recently in British Columbia. It is located near Sechelt, northwest of Vancouver, and is under the management of Canadian Forest Products, Ltd.

At the dedication ceremony, Tom Wright, chief forester, Canadian Forest Products, demonstrated methods and told the assembly of work being carried on.

The tree farm includes 1,161 acres logged between 1935 and 1945; 840 acres are second growth fir, hemlock and cedar; 36 acres second growth lodgepole pine; 113 acres old growth fir, hemlock and cedar; and 411 acres non-productive land. Six growing sites range from excellent to non-productive. The Sechelt tree farm is over 53 percent in Site Four, classed as medium to poor growing land, with the next highest percentage in the medium growing site.

A 40-acre tract of second growth fir, hemlock and cedar has been laid out as a commercial thinning operation. Reseeded after the fire from near-by trees, it is now the main stand. Over the 70-year period the area had gradually filled in until the present forest is made up of 83 percent Douglas fir, 15 percent hemlock and 2 percent red cedar. Largest trees are 38 inches DBH and 160 feet tall. Average tree in the stand before thinning was 15 inches in diameter and 114 feet in height.

Looking Ahead

The volume of the average tree removed in the 1975 thinning will be 4.7 times greater in volume than average tree removed in the present thinning. The residual stand after the 1975 thinning will be a superior forest in which the average tree will contain approximately 1200 board feet (International Log Rule). The stand will contain a total volume of approximately 40,000 board feet per acre of growing timber.

THE STAND WAS THINNED "from below," removing smaller, overtopped trees in the first cutting. Many of these smaller trees will die naturally within the next few years. Their salvage represents an economic advantage. Residual crop trees will put on extra growth.

In the Canadian Forest Products thinning operation heaviest part of the cut is taken from smaller diameter groups. Most of the trees in the larger diameter classes remain as crop trees in the residual stand. Trees to be removed were marked with paint. Approximately one-third of the volume was to be removed, leaving the residual trees evenly spaced. Smallest trees were marked first, followed by larger trees of poor quality, and larger trees which were crowding other large trees.

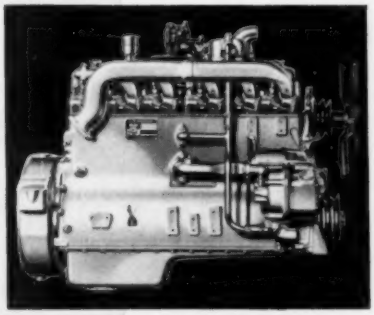
(Continued on page 137)

LOAD OF SMALL trees being lifted aboard Ford truck for transportation to the dump. The small trees are utilized for pulp.

SMALLER TREES THINNED from the stand are being yarded into the loading area with Caterpillar D4 tractor, with Hyster drums.

WAUKESHA *two-platoon horsepower* FOR LOGGING

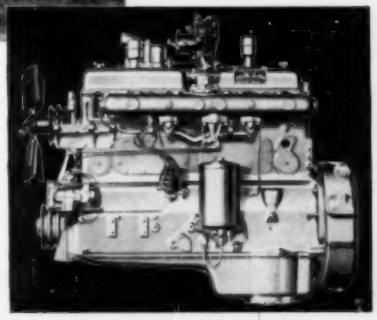
Hollenbeck Logging Co., Trout Lake, Washington, has a new MC-524 Lorain Moto-Crane log loader powered by two Waukesha Engines. Before going to work in the woods, it is cleaning a log pond, using its 70-ft. boom with ¾-yd. bucket. For logging it uses a 50-ft. straight boom with end hooks.



(Powering the boom)
140-GK—GASOLINE—
4½-in. x 5½-in., 525 cu. in.
160 max. hp. at 2250 rpm.

•

(Powering the chassis)
145-GKB—GASOLINE—
5¼-in. x 6-in., 779 cu. in.
240 max. hp. at 2400 rpm.



50th ANNIVERSARY Waukesha MOTOR 1906-1956

• This mobile loader has it—Waukesha two-platoon horsepower for logging! Safe, sure, steady power, with a ready reserve, for heavy handling. Smooth and swift, to load more logs quickly. Fast and flexible, for speedy movability, and reliable road travel. Shown is a MC-524 Lorain Moto-Crane log loader on rubber; has two high-fuel-economy, low-upkeep Waukesha Engines; one powers the boom, one the chassis. Send for Bulletins.

WAUKESHA MOTOR COMPANY, WAUKESHA, WIS. • NEW YORK • TULSA • LOS ANGELES

WAUKESHA

LOGGING ENGINES

DIESEL • GASOLINE • LPG
10 hp to 1135 hp

284

MATERIALS HANDLING CLINIC at annual NRLDA meeting attracted considerable interest, featured demonstrations of lumber wrapping, strapping, loading, unloading with lift trucks.

Clinic Handles Lumber

in demonstrations which show new methods in wrapping and strapping

HIGHLIGHTS OF THE "Products In Action" annual session of the National Retail Lumber Dealer's Assoc., held in Cleveland, Ohio on October 9-14, was the Materials Handling Clinic.

Held each day, it afforded 200 lumber dealers "on-the-spot" demonstrations of the newest developments in lumber shipment techniques and materials handling equipment. Demonstrations were conducted on a huge outside dock area adjacent to the rail siding servicing the Cleveland Auditorium. Total show attendance was 7500.

CLOSEUP OF BULKHEAD method of shipping lumber on open flat cars. This shipment is from Winton Lumber Company, Martel, Calif.

Ten flatcars of lumber were shipped from mills in the Pacific Northwest and South. Most of these were the new permanent bulkhead flatcars, developed specifically for the lumber industry. All lumber on these open car shipments was strapped by the newest, unitizing and interlacing strapping techniques developed by the steel strapping companies (Acme, Signode and U. S. Gerrard) working closely with the mills and the Association of American Railroads. A number of the lumber shipments were strapped into units and wrapped with American Sisalkraft "Fibreen".

Each day three of the flatcars were analyzed as to board footage and type of lumber and size of unit or packages. Then fork lift trucks and straddle trucks of Clark-Ross, Hyster, Baker-Raulang and other manufacturers demonstrated how quickly and efficiently these packaged open car shipments could be unloaded.

Strict time trials were not conducted, but cars containing 36,000 board feet were unloaded in 40 to 45 minutes. John Moeling of Sterling Lumber and Supply Co., Chicago and Goodwater, Ala., who has done much pioneering in open car shipments, explained to the audience that in normal operations cars containing 36,000 board feet are unloaded in from 30 to 35 minutes with one fork-lift truck and operator and one helper. Tom Dougherty of Dougherty Lumber Co., Cleveland, explained that on open car shipments containing 35,000 board feet unloading time in his yard has been as little as 20 minutes with two fork lift trucks and operators and two helpers.

CARS WITH LUMBER wrapped in Sisalkraft covering showed individual packages in excellent condition. Shipped from Pacific Northwest mills, they were in transit as long as three to four weeks. The covering was almost completely intact upon arrival. Representative packages were opened and the lumber appeared to be in exactly the same condition as when loaded at the mill. An additional advantage of Sisalkraft packaging is that the dealer can store the package outdoors when he receives it, and it is indefinitely protected against weather. About 30 mills in the Pacific Northwest now furnish Sisalkraft-wrapped lumber upon request.

In open flatcar shipments not wrapped in an entire enclosure, the covering being only on the top surface, appearance even on outside surfaces was good and on the inner areas or surfaces appearance was exceptional. Unitizing and tight strapping affords good protection to all inner areas or surfaces during shipment. There also were several boxcar shipments of dimension lumber and plywood strapped and unitized for mechanical unloading.

Two representative cars shipped point up the efficiency of this method of shipment.

• **Diamond Match Company,** shipped from Albeni Falls, Idaho. The car contained 45,489 board feet, 112 pieces of 2x10, 142 pieces of 2x8 and 168 pieces of 2x6. There were 18 packages and six packages to a pile. The cost of strap on this car was $15.65 or $.35 per thousand. No test permit is required by AAR on this type of car shipments, as shipments using tall stakes have been approved by AAR.

• **Cascade Lumber Co.,** shipped from Yakima, Wash. This is a good representative car of an American Sisalkraft-wrapped open car shipment. It contained 32,430 board feet of kiln dried ponderosa pine boards, and was wrapped in 2600 square feet of Sisalkraft costing $26.00 and 843 of strap costing $16.08. This is a short stake car and still needs the test permit from AAR to ship. This method is the most desirable and should be approved by AAR in the near future. Short stakes save lumber and it is not necessary to truss up the whole load.

THE CASCADE CAR was in excellent condition upon arrival—perfectly protected. There was only a very in-

IF YOU WANT BETTER FINISH... LESS WASTE... MORE ACCURACY... HIGHER PROFITS...

You'll want NEWMAN MACHINES

Geared to YOUR production

S-824 SINGLE SURFACER

One of our new line of power hoist planers made in varying sizes and types—screw bed or wedge bed — the S-824 will plane 24" wide and from ⅛" to 8" thick.

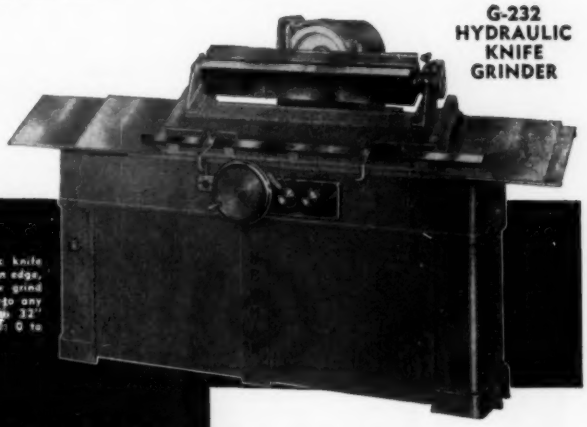
We manufacture six different types of single surfacers. The S-616 planes 16" wide. The S-620 planes 20" wide. The S-824 planes 24" wide and the S-830 planes 30" wide. The SW-824 and the SW-830 are wedge bed types.

K-16 VARIETY SAW

Designed for a variety of operations: ripping, cross-cutting, mitering, beveling, grooving, dadoing. 16" blade rips stock 26". Can cut off stock 28" wide.

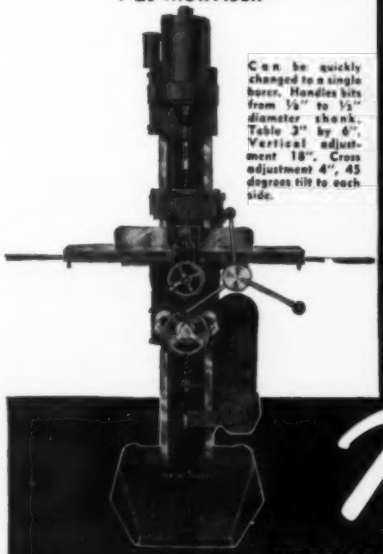
5 H.P. direct connected motor. Push button controls provide overload and low voltage protection. Cast iron base.

G-232 HYDRAULIC KNIFE GRINDER



The G-232 Hydraulic knife grinder will grind plain edge, bevel edge, or hollow grind and can be adjusted to any length of knife up to 32" long. Speed of stroke: 0 to 70 FPM.

T-20 MORTISER



Can be quickly changed to a single horer. Handles bits from ⅛" to ½" diameter shank. Table 3" by 6". Vertical adjustment 18". Cross adjustment 4", 45 degrees tilt to each side.

The machines shown here are but a few of those manufactured in our big new modern plant, now turning out a full line of up-to-the-minute Woodworking Machinery. The Newman series of Planers and Matchers has achieved an enviable reputation throughout our woodworking industry. We also produce pineapple feed tables, tenoners, shapers, hand jointers, circular resaws, rip saws, swing cut-off saws, high speed steel planer knives and cutterheads of many types. Our large staff of design engineers constantly seek newer, finer techniques and quality controls from first conception through drafting room, pattern shop, foundry and machine shop. All Newman cylinders, side heads and pulleys are dynetrically balanced to assure perfect balance and smooth vibration-free operation throughout a long productive and profitable life.

Remember, you'll always get more profit dollars from Newman Machines—

Geared to YOUR production.

G-16 HEAD GRINDER

Designed to grind accurately and uniformly the many types and sizes of molder heads, planer and matcher heads and profiler heads.

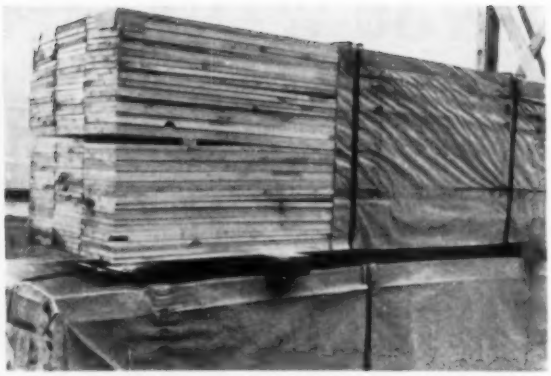
A flat grinding wheel furnished on one spindle and a 6½" saucer grinding wheel on the other spindle. Motor rotates 360 degrees so either grinding wheel may be used over the table.

PEDESTAL TYPE

Newman MACHINE CO., INC.

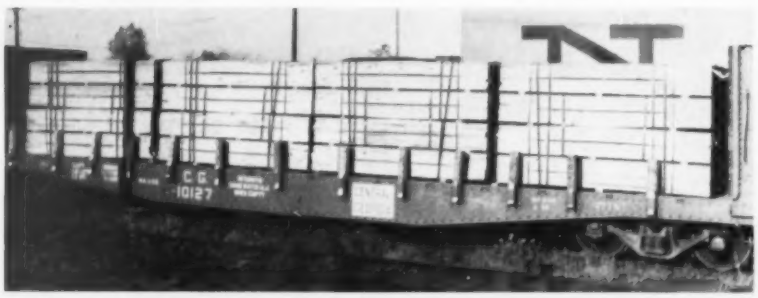
GREENSBORO, NORTH CAROLINA, U. S. A.

LOADING SISALKRAFT-wrapped lumber packages at Cascade Lbr. Co.



OPENED PACKAGE of Cascade lumber showed excellent condition.

SHIPMENT FROM DIAMOND Match Co., Albeni Falls, Idaho, used American Association of Railroads-approved high stakes. Lumber was strapped in this shipment, but not wrapped.



SHIPMENT FROM STERLING Lumber & Supply Company, Goodwater, Alabama, used bulkheads, and short stakes (which are not yet AAR-approved). Shipment used straps, no wrapping.

SHIPMENT FROM CASCADE Lumber Company, Yakima, Washington, was Sisalkraft-wrapped. It was strapped and loaded on a bulkhead rail car with short stakes. Shipment was 32,430 bf.

significant amount of slippage in the bottom packages (kiln dried stock is very slippery). Strapping techniques perfected have been almost thoroughly effective in eliminating slippage and shifting of lumber in transit.

John Moeling states that, "If properly loaded, strapped and packaged, open cars can be shipped just as well as any." He further explained that while figures on cost of strapping and Sisalkraft wrapping are on hand, the cost of loading, unitizing, strapping and wrapping operations is still in the stages of determination. Tests are being conducted and studied thoroughly.

Moeling also commented that this type of loading and unloading creates a more interesting and imaginative job for the workmen and produces better job conditions and more professional and interested workers.

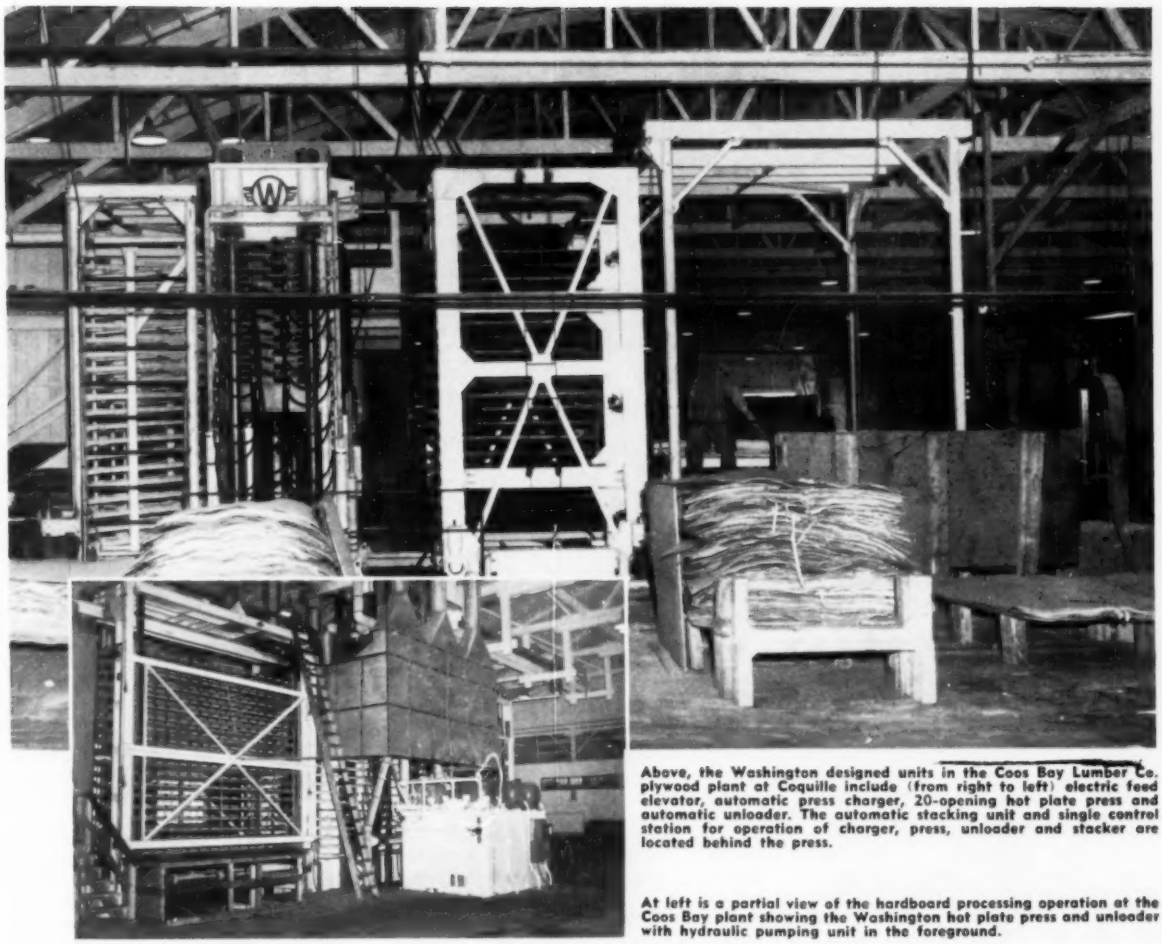
A new unit of materials handling equipment which attracted much attention was the Traveloader manufactured by Baker-Raulang. Another noteworthy new item was the Swing-Shift Mfg. Co. attachment used on several of the fork lift trucks. Attached to the fork lift, it allows the operator to jockey or move the load laterally and at angles, saving considerable time.

BCFS Needs Foresters

• Addressing the Sloan forestry commission recently, J. F. Jacobsen, president of the Association of B.C. Foresters, said that B.C.'s forest revenues were in danger because of inadequate supervision on new growth.

The forestry expert said sustained forest yield will be seriously hampered if more trained men do not soon join the government forest service. Only 26% of 307 forestry graduates have joined the government service in the last six years, claimed Mr. Jacobsen.

Higher salaries and faster promotion in other fields of endeavor were cited as the main reasons for trained personnel leaving the forestry department.



Above, the Washington designed units in the Coos Bay Lumber Co. plywood plant at Coquille include (from right to left) electric feed elevator, automatic press charger, 20-opening hot plate press and automatic unloader. The automatic stacking unit and single control station for operation of charger, press, unloader and stacker are located behind the press.

At left is a partial view of the hardboard processing operation at the Coos Bay plant showing the Washington hot plate press and unloader with hydraulic pumping unit in the foreground.

WASHINGTON equipment "package" wraps up second press production line for Coos Bay

IN THE Coos Bay Lumber Co. hardboard plant at Coos Bay, Oregon, and now in their new plywood addition at Coquille, hot plate presses and principal equipment units designed and manufactured by Washington Iron Works are handling a record production of hardboard and plywood.

The completely automatic installation at the hardboard plant includes Washington feed unit, felter, cutoff and trim saws, speed changer, vacuum transfer, loader, hydraulic hot plate press, unloader and board and caul transfer.

The new plywood production line at Coquille includes Washington electric feed elevator, automatic press charger, fast-operating hot plate press, automatic indexing type panel receiver and ejector and automatic stacking unit.

Designed together from the ground up, these *integrally engineered* units for both hardboard and plywood manufacture make up an "all Washington package" which results in more efficient engineering, installation and operation. "All Washington" means that all of the equipment is designed to work together, and more than that, it is designed for your specific operation. It means lower installation costs and dependable, efficient operation as well as a single reliable source for parts and service.

Many plywood and hardboard plants are finding the "all Washington package" the answer to more production with less manpower and downtime.

In addition to hardboard and plywood presses and accessory equipment Washington Iron Works also manufactures hydraulic presses for door and particle board production, hydraulic pulp baling presses and basic equipment for modern logging, including the mobile self-propelled TRAKLOADER for combined yarding and loading.

Get the full story!

Ask your local Washington dealer or field engineer, or write direct to the factory for full particulars on how Washington designed and built equipment for specialized applications in the logging, pulp, hardboard and plywood industries can speed up your operation.

1500 Sixth Avenue South, Seattle 4, Wash. **Elliott 1292**

WASHINGTON IRON WORKS

LOADING OUT LOGS on Ford F-6 with Taylor Machine Wks. "Loggers Dream" mounted on GMC-400 at Williams Lbr. Co., Franklinton, Louisiana. This sparse stand is selectively cut.

Company Manages Lands

and conducts safe operations in mill and woods comprising 35M acres

WITHOUT FEE OWNERSHIP lands of its own, Williams Lumber Company, Franklinton, La., manages a total of 35,000 acres. Some 98 percent of all logs processed by its 30M foot per day sawmill are selectively cut, the balance being bona fide "pasture" clearings.

What's more, W. T. Bonsack, vice president and general manager, refuses to bid on "lump sale" clearing-cuttings stumpage offers.

It all started in 1950 on a 60-acre tract. Bonsack came to Williams Lumber Co. in 1946, starting there as shipping clerk, later became superintendent, and then general manager. The company had been founded by the late Leonard Williams, identified for many years with Long-Bell Lumber Co. and a member of the original Southern Pine Association "Yellow Pine Grade Rule" committee. He retired from big mill running; then had his own small operation to occupy his time.

Cutting around 55 percent pine and 45 percent hardwood, the mill is a circular rig and uses a solid tooth Simonds saw. Unusual in the deep South, it has the top-saw common on the West Coast, which is used some each day. An elevated tram serves the mill, coming to ground level in the new section of a hardwood air drying yard.

It is very serviceable in wet winter months. The tram enables three men to sort and grade the mill cut; and costs are not high. Work week is 40 hours in 5-days.

BOILERS ARE FIRED with planer leftovers and hogged slabs and strips carried by chain to above the fire box and fed direct by chute into it. Excess slabs are piled across the road. Rural residents cut them to length for fireplace and stove. Possible barking and chipping may change this.

Most "unsafe" happening in the sawmill was when a hollow log containing a skunk landed on the carriage. Much enraged, the skunk emerged, and let everybody have it. The mill was down two hours for a needed steam hose cleaning.

Noted by insurance companies for its excellent safety record, Bonsack credits this in part to using crew men who are "settled" and have been with the company for a long time. Of its total 105 payroll in mill and logging, all are negroes except those in supervisory positions. From management's view, negroes employed in this type of work are intelligent and skilled at their tasks; are not inclined to be troubled by personal problems while at their tasks; and each is conscious of himself. Crew members have similar patterns of thought.

Management impresses foremen with its desire not to have accidents. In the woods, where logging crews number 27, a good safety record is believed due to sound policies and company operation. Equipment is kept in good order, and proper safety features are incorporated.

LOGGING EQUIPMENT includes eight trucks with pole trailers and three Taylor Machine Works "Loggers Dreams." Of the latter, one is mounted on a GMC-600 truck chassis; the other two on Army surplus 6x6 units and used in the swamps.

(Continued on page 94)

BUCKING 90-FOOT PINE (left) in Tchefuncta river swamp with Poulan chain saw. Center, (L. to R.) W. T. BONSACK, v.p.-gen. mgr.; HERBERT BELL; GEORGE BELL, owner of the Williams Lumber Co. Right, Ford F-7 truck, Nabors pole trailer. Note the safety stakes.

Reliance builds 'em TOUGH

RELIANCE

Two-Axle Full Trailers for logging 16 to 20 foot logs are really something special! These trailers must be built to take the full load — the supreme test of trailer ruggedness and dependability.

Special features of this superior Reliance product include: Reliance engineered special pressed high tensile steel frames: 18,000-20,000 KB Reliance axles; 17¼ x 8" brakes; Reliance's famous ball bearing fifth wheel; high tensile steel draw bar with swivel eye. When used together with a three-axle truck, a legal gross load of 76,800 pounds is possible. They're not only the toughest, but the lightest in weight!

Reliance Two-Axle Trailers equipped with lumber bodies, rolls or bars are fast becoming the standard equipment for transporting lumber and lumber products.

The hundreds of Reliance Two-Axle Full Trailers in use throughout the West attest to the fact that:

It's better to own RELIANCE TRAILERS than try to compete with them!

RELIANCE TRAILER and TRUCK CO. Inc. • San Francisco

LOS ANGELES, Conestoga Equipment Co. • STOCKTON, Reliance Trailer Equipment Sales Co. • SACRAMENTO, Reliance Trailer Sales
PORTLAND, Pacific Body Builders • SEATTLE, Vehicle Sales, Inc. • HONOLULU, Grace Brothers, Limited • ANCHORAGE, Alaska, James Burke & Co.

DIRECT STUMP pulpwood loading is done by J. F. Thompson, Tylertown, Miss. with Chevrolet truck. Stand is cut to yield 800 ft. per acre.

FORD F-7 TRUCK with Nabors pole trailer is carrying 1600 feet load. The truck and trailer capacity is 35-3600 feet of logs.

GEORGE BELL (left) typical country owner of 100 acres deeded to his family in 1812. At the right is J. P. ALFORD, woods foreman.

Armco Pipe Meets your needs EXACTLY!
With Armco Welded Steel Pipe it is easy to meet exact requirements for water lines and other applications. You can make your selection from this range of sizes:
1. Diameters from 4 to 24 inches
2. Wall thicknesses from 16 gage to 5/16-inch
3. Uniform lengths up to 40 feet
This wide range of sizes makes it easy to avoid buying more metal than you need. And uniform lengths, instead of double-random, simplify ordering and you know in advance how many joints will be needed.
Armco Pipe is made to standard specifications for steel pipe of American Society for Testing Materials and American Water Works Association. Write us for data.
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Company Manages Lands

(Continued from page 92)

Bonsack's first task as general manager in 1950 embraced procurement of logs for the mill. With a background of reading about forest management, visiting various operations and witnessing selective marking, as well as knowing merchantable timber, he marked his first 60-acre tract successfully. Since then, until he employed a full time forester in 1955 mid-June, he supervised mill and logging, talked to owners about forest management, acquired stumpage under a management agreement, and marked the stands. He had a brief vacation in 1951. Company management field's farthest stand is 56 miles from the mill—550 acres.

East of Franklinton lands are cut over from virgin pine by Brooks-Scanlon Lbr. Co., 35 years ago when their big mill was at Kentwood, La. Here a few rough trees have been left, serving as seed source. It had been cut again in 1947. Repeated annual fires produced a stagnant stand such that a cut to diameter would have almost netted a clear-cut.

SPARSE CUTTING TO open up the stand and to yield a return for the owner was bringing about 800 board feet per acre plus a quarter cord pulpwood from tops and one cord from standing trees. Pulpwood contractor J. F. Thompson, Franklinton, at the time of visit had a Chevrolet truck in the stand. Full accounting of pulpwood was required, all going to owner. Next cut will yield 600 to 800 feet to the acre, and a good stand (with fire excluded) will be in the making.

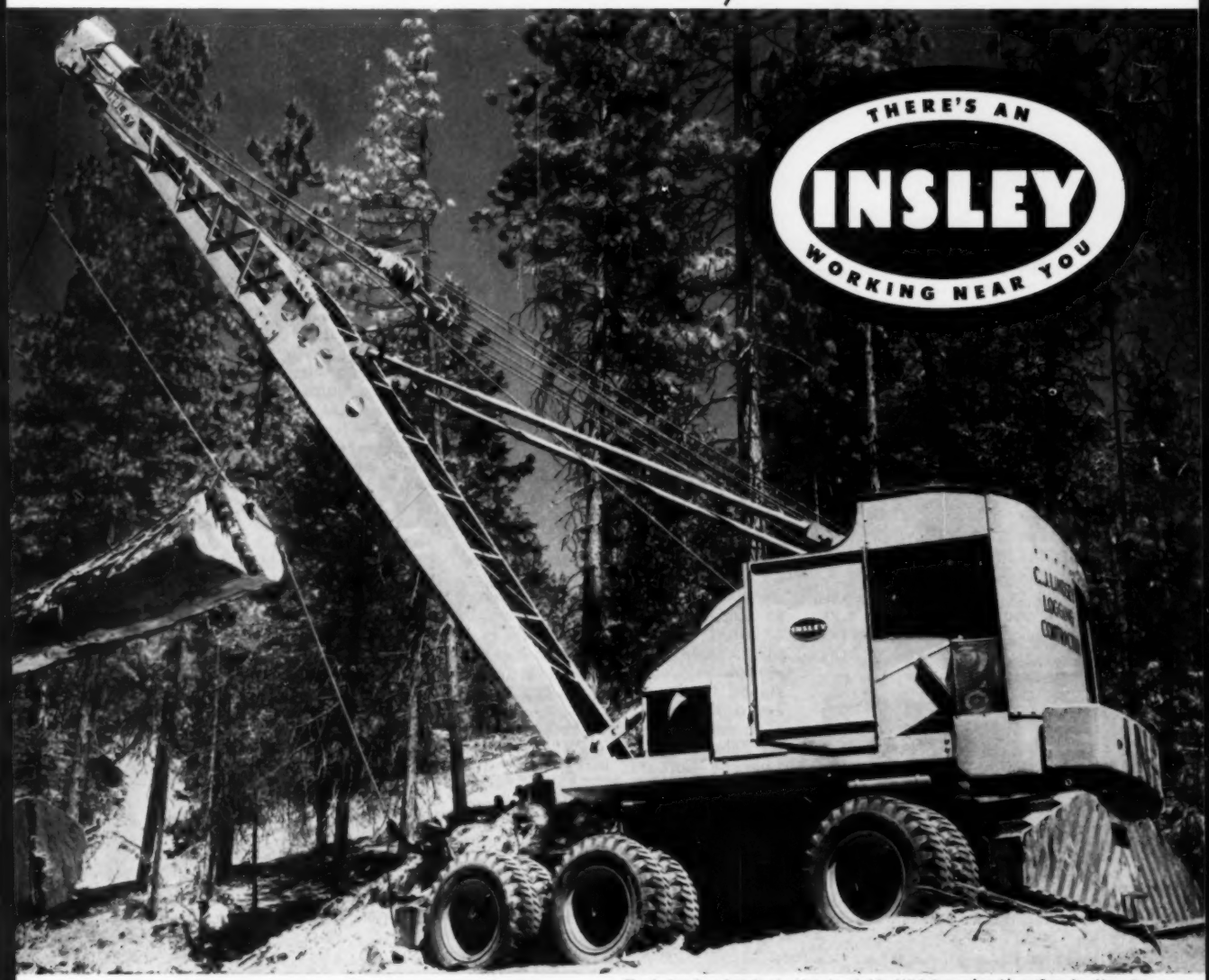
In early logging days stumps were cut to clear high wagon axles. Five inches now is high, and Bonsack insists on ground level cutting. On one job where the stumps were too high, he sent the crew back with a cross cut saw to lower the stumps. Poulan chain saws are used.

Lands under company management embrace a wide range: the smallest, 2½ acres cut in 1951; the first 60 acres cut in 1950, again in 1955, and scheduled for a third in 1963. The largest is 800 acres, run by an absentee heir to his father, who had never seen the property nor its 11-acre gravel pit formed spring fed

(Continued on page 112)

INSLEY CRANES ASSURE SAFE, ACCURATE PLACING OF HEAVY LOADS BECAUSE THE OPERATOR CAN SWING THE LOAD, LOWER THE LOAD WITH POWER AND LOWER THE BOOM WITH POWER SIMULTANEOUSLY OR INDEPENDENTLY

RUBBER MOUNTED FOR MOBILITY AND FLOTATION



The Insley Log-Loader is Also Available With Lorry (truck) or Crawler Mounting

THE INSLEY LOG-LOADER OFFERS THESE FEATURES:

- One Man Control . . . All Controls At Operator's Station
- High Maneuverability . . . Hydraulic Steering
- Air Actuated Brakes On All Wheels
- Automatic Parking Brake On Carrier
- Independent Travel And Swing
- Tow-Bar For The Long Hauls
- Rugged "I" Beam Reinforced Frame With 3 Point Suspension
- Power Load Lowering On Load (hoist) Line
- Adaptable To All Types Of Logging Booms
- Has Mobility Needed For "Spot Loading" And Clean Up Work
- Adaptable To Full Range Of Attachments For "Off-Season" Work
- Fluid Coupling Or Torque Converter

INSLEY MANUFACTURING CORPORATION
INDIANAPOLIS
wholly owned subsidiary
THE MAXI CORPORATION, LOS ANGELES

ARRANGEMENT OF LUMBER processing units at Molalla Forest Products Co. Trimmer feed in fore., fed from Albany edger, L., and headrig, R. Slasher pit beyond trimmer table feed.

Dikes Provide Storage

for logs at DF mill operation in the redwood region of California

CLOVERDALE, CALIFORNIA, a beehive of forest industry plants, is the location of Molalla Forest Products Co., a double circular mill with a rated output of 100M board feet per shift. Some 100 men are employed on a 2-shift basis, producing Douglas fir lumber. The mill started operation in August, 1954.

LOG HAUL is driven by a 25 hp. unit made by the Klamath Machine and Locomotive Works.

Latest addition to the mill is a Sumner chipper, which went into operation in October. Chips are consigned to the Masonite Corp. hardboard plant at Ukiah.

Incoming logs, delivered by Chester Bates Lbr. Co. and William Bates Logging Co. and hauled over the Kelly Road (Sept. 1955, THE LUMBERMAN), are dumped into a seven-acre pond. A six-foot chain saw (L-M bar and stinger, Oregon chain) cuts logs to mill length, for transport up the 108-foot (nine 12-foot sections) steel log haul, equipped with ESCO flight and driven by a Klamath Mach. & Locomotive Wks. 25 hp. (37 fpm) unit, through Pacific Western Gear reducers.

Equipment on the 38-foot log deck is also Klamath Mach. & Loco. Wks. (log kicker, stop and loader). The Simondson turner was furnished by Portland Iron Works. Independent lift skids are used. The 8x10 nine-foot stroke Hill air nigger is furnished by Klam. M&LW.

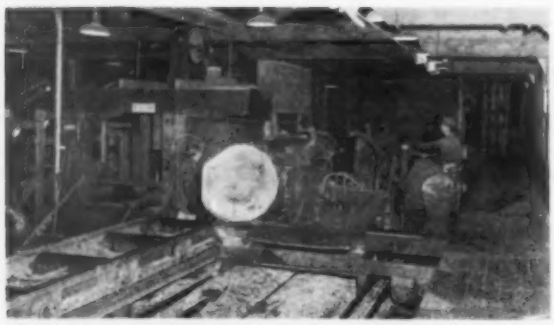
The Monarch 66″ roller chain three block carriage has Andrus air-operated setworks and Monarch dogs (1 tong) and is cable driven by a 200 hp. GE amplidyne unit, with variable speed control. Feed rate is 450 feet per minute, with 868 feet on the return. The Hoe double circular rig has a 60″ 4½x6 pattern saw on the bottom and a 52″ 3½x6 pattern on top, driven by a 300 hp. GE motor.

STOCK FROM HEADRIG goes straight through to the trimmer table or is kicked off to feed to a 60x8-inch five-saw Albany stub edger, driven by a 150 hp. motor. A 12x30-inch Wicks cant gang also handles part of the headrig output. Slabs are dropped into a slasher pit ahead of the trimmer table.

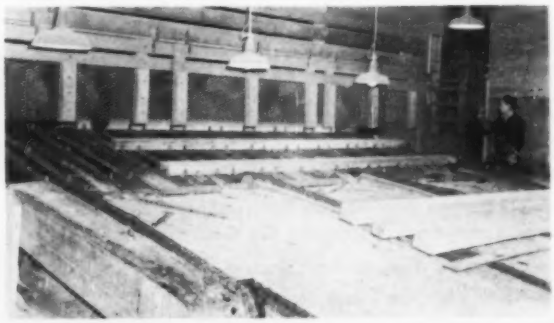
Trimmer stock goes through a 28-foot Albany trimmer, with DC-AC variable feed chain drive (Reliance) on the feed table. Trimmer is driven by a 75 hp. motor. Alemite Oil-Mist lubrication system is used.

Stock discharged from the trimmer either goes straight through on a 60-foot sorting table and drops down a nine-foot incline to the 160-foot long green chain or is by-passed to a Kla-

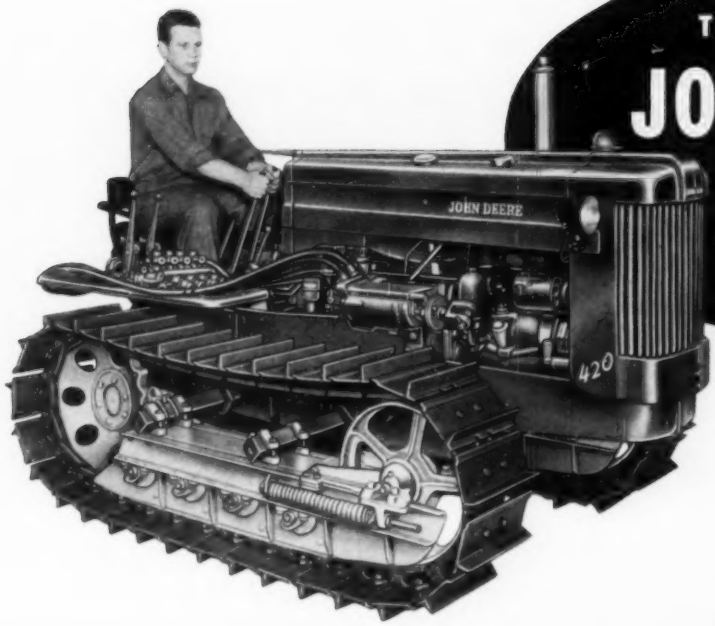
RELIANCE VARIABLE speed unit drives the feed table of Albany trimmer, shown below.



CARRIAGE IS 3-block Monarch cable-driven by GE amplidyne unit. Double circular headrig has Hoe saw, a 60-inch bottom, 52-inch top.



ALBANY 28-FOOT trimmer handles mill output, and has variable speed feed table. Albany trimmer is also used in the planing mill.



The NEW JOHN DEERE CRAWLER

with 25 Horsepower on the Drawbar

Little Giant of Field and Forest

COMPACT, RUGGED, ECONOMICAL...

Ready to Save You Money in Dozens of Ways

LOGGERS, farmer-loggers, even large logging firms, are making an important discovery. They are finding the light, rugged, economical John Deere "420" Crawler Tractor "tailor-made" for their work and their working conditions.

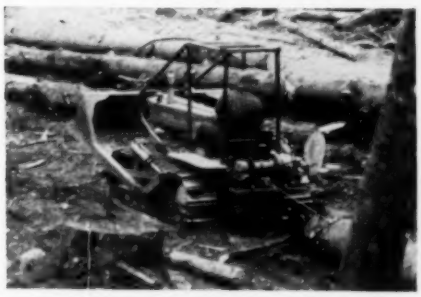
Over 300 owners in the Northwest woods country will tell you that you'll look a long time before you'll find a tractor that costs so little to own, yet can be depended upon to go out in any kind of weather and get the necessary work done.

They are finding that this "Little Giant" is several types of helper all in one—mobile, maneuverable, versatile, powerful for its size. Only by talking with the men who are using this tractor can you appreciate the savings it makes in time, costs, and manpower.

Low, compact design and ample trackage make the "420" unusually stable on hillsides and in rough country. "Live" hydraulic control is at your finger tips for handling the front-mounted bulldozer. Deep-cushion adjustable seat provides extra comfort for the operator. Maneuverability—the ability to get in and out of tight spots—is one of its best features.

Heart of the "420" Crawler is the new John Deere-built valve-in-head engine—powerful, economical (about a gallon of gas per hour) and easy to keep in good running order.

If you're interested in real savings—greater profit from your operations—



Yarding logs, piling brush, or fire-prevention work—why tie up a big, expensive tractor when the John Deere will do the job for as little as half the cost.

★ ★ ★

get the facts now on this modern crawler and equipment from your nearest John Deere dealer.

Use the John Deere with dozer and winch to log out those tracts that are too small to justify moving in a big tractor and outfit.

Send for Free Literature

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Please send me your latest literature on the John Deere Crawler Tractor and Equipment.

Name _____

Title _____

Firm _____

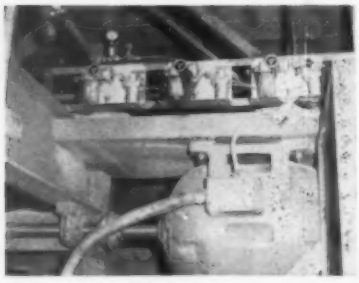
Address _____

City _____ *State* _____

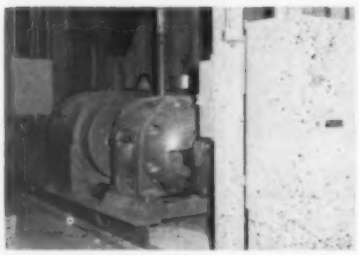
JOHN DEERE
Industrial TRACTORS and Equipment

LOG DUMP FEEDS seven-acre log pond. Mill and Rees burner in distance. There is also diked pond area for additional log storage.

TWO SOULE STEEL buildings are used. This one is 200 ft. green chain. Additional 240 ft. unit houses planing mill sorting chain.



ALEMITE OIL-MIST lubrication is used on the Albany Machine & Supply sawmill trimmer.



CARRIAGE IS driven by a 200 hp. General Electric variable speed amplidyne unit.

math Iron Works 60-inch resaw, driven by a 125 hp. GE motor, with a Klamath Mach. & Loco. Works line bar.

It is fed back to the sorting table from this unit. The green chain, under cover in a 200-foot long open-side Soule steel building, has a timber drop at the end.

From here stock goes to the planing mill, equipped with a 6x15 American 77A belt driven (150 hp.) planer and Albany 28-foot selective wheel trimmer, with Reeves variable speed feed table. The tilt hoist feeding the planer is furnished by Zidell Mach. & Supply Co.

The planing mill sorting chain is 185 feet long, housed in a Soule 240 foot long open-side steel building. Portaloy chain was furnished by Portland Chain, as was the 80 feet of roll top chain on the green chain.

The main mill building, of timber construction, is 178 feet long. The planing mill is 60x32 feet. Blowpipe installation was made by Central California Blow Pipe Co. A 500 cu. ft. Gardner-Denver compressor furnishes air for the air nigger, turner, trimmer and all lifts.

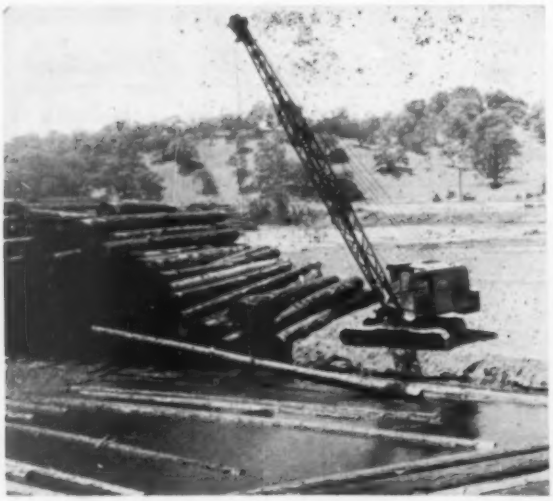
A ¾-yard Lorain shovel does log decking for storage purposes. A dike system is used to provide more storage area for logs. Gerlinger lift trucks and carriers are used for lumber handling. A 70-foot Rees burner handles mill refuse which isn't chipped.

Company personnel are: James Laier, pres.; John Jacobsen, vice-pres.; N. C. DeLaittre, sec.-treas.; Froyd Laier, mill supt.; and Thos. B. Haynes, maintenance supt.

California Forester To Head SAF '56-'57

• De Witt Nelson, Dept. of Natural Resources, Sacramento, Calif., has been elected president of the Society of American Foresters for the two-year term 1956-57. George A. Garrett, dean, Yale University School of Forestry, was elected vice-president.

Council members elected include: B. E. Allen, Union Bag & Paper Co., Savannah, Ga.; Philip A. Briegleb, USFS, New Orleans, La.; C. Huxley Coulter, Florida Forest Service, Tallahassee, Fla.; Stanley G. Fontanna, University of Mich., Ann Arbor, Mich.; Maurice K. Goddard, Pa. Dept. of Forests and Waters, Harrisburg, Pa.; Edwin F. Heacox, Weyerhaeuser Tbr. Co., Tacoma, Wash.; Joseph S. Illick, State Univ. of New York, Syracuse, N. Y.; J. Herbert Stone, USFS, Portland, Ore.; Henry J. Vaux, Univ. of Calif., Berkeley, Calif.



◀ LORAIN ¾-YARD shovel cold decks logs on series of dikes paralleling pond area, which provides additional storage over main pond.

TRIMMER DISCHARGE is at left, sorting table, foreground. Stock can be by-passed to the Klamath Iron Works resaw, in the middle.

LeTourneau Electric Arch. Electric, all-wheel drive, wide-base tires, oscillating axle, and front and rear steering give this machine unsurpassed performance on any logging show . . . make it extremely productive on steep grades and long hauls.

New, specialized machines for Loggers by LETOURNEAU

This is the specialized equipment that you've asked for — delivering the working speed, power, and performance you need in the woods. Every component is engineered as part of a smooth-working logging machine — not as an attachment to a construction tool or truck. Each type of equipment has been made to do a specific logging job and is now paying off for loggers in increased production.

This new LeTourneau equipment gives you a big advantage on heavy logging jobs because of an entirely new means of applying tremendous power to log handling and machine traction — *the LeTourneau system of electric power and control:* Self-generated diesel-electric power — responding instantly to simple, fingertip controls — is applied directly to your work through powerful motors and gear reductions located at the point of action.

Electric Wheels with individual motors geared directly inside their rims give these machines an infinite number of power steps and produce extra off-road mobility. This "package"drive puts power *under* the load without transmissions, clutches, and torque converters.

Winches and other working components also are powered by LeTourneau electric motors and gear boxes located directly at the point of work. All are powered independently and may be operated singly or together.

The capacity for increased production offered in this new LeTourneau *specialized* logging equipment is worth your investigation today. Call, or go by and see your LeTourneau distributor. He will be glad to give you more detailed information or to arrange a demonstration.

[SINCE 1929 — R. G. LeTourneau, Inc., Longview, Texas, has built BIG equipment for 26 years under the same corporate structure. In 1953 LeTourneau sold part of its business, retaining plants in Longview and in Vicksburg, Miss. Today LeTourneau creates and produces electrically powered and controlled equipment for logging, land clearing, off-road transportation.]

LeTourneau Log Stacker. Picks up entire truck load of logs at once, releasing truck for return trip. Carries them over unprepared terrain, to cold deck, pond or work table. Electric load forks, tusks, and boom-tilt operate singly or together. Operator easily lowers, raises or tilts load while traveling.

LeTourneau Logging Crane. Handles Douglas fir logs of 4,000 to 5,000 bd. ft. with powerful, electrically-driven works, self-setting outriggers, smooth hoist and swing controls. Electric Wheels take crane into remote areas under its own power.

LETOURNEAU LET EQUIPMENT

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TOTEM EQUIPMENT CO.
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E. 525 Trent, Spokane, Washington

LOGGERS & MILL SUPPLY CO.
Highway 299, Arcata, California

CONVEYAIR UNIT in mill blows chips 550 feet through 6-in. diameter pipe to storage pad or to loading chute. Shed (L.) houses similar Conveyair which takes stored chips to barge.

New Chipping System Recovers Cedar Chips

• Cedar sawmill leftovers are now being chipped for the pulp industry. Lamford Cedar Ltd., New Westminster, B. C., recently began production of cedar chips, a relatively new development in the province.

Lamford has installed a 50-inch C. M. & E.-Norman chipper, manufactured in Portland, Ore., and a pneumatic conveying system designed and installed by Conveyair, North Vancouver, B. C.

The conveying system is a four-way installation, designed to blow chips from the mill directly to the barge loading chute; from the mill to an 80-foot square storage pad; from the mill and storage pad to the barge chutes simultaneously, and from the storage pad back to the mill for internal use.

Chips are fed from the chipper to a Conveyair Star feeder driven by a 3 hp. motor. A 25 hp. blower provides the air stream to blow chips the 550 feet to the loading chures or to the storage pad at a maximum rate of 15 units per hour.

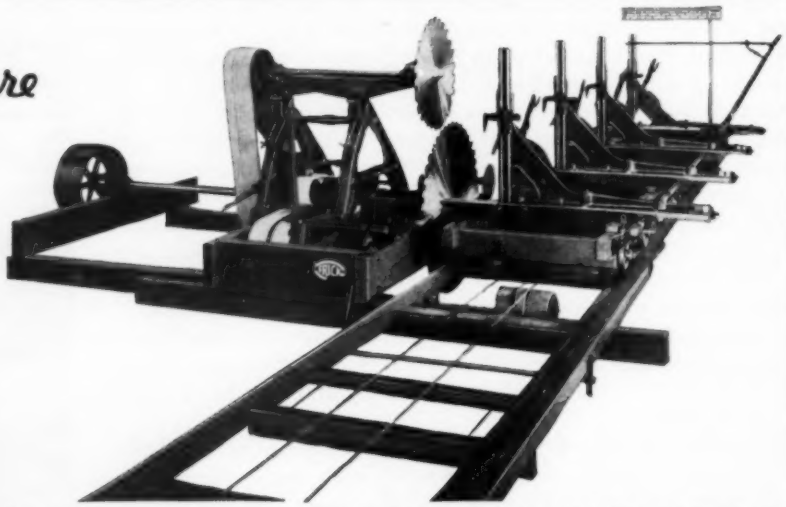
Storage chips are transferred from pad to barge by another feeder blower unit of the same specifications, housed in a shed adjacent to the pad. A fork left truck equipped with a large scoop dumps the chips into a sunken hopper in the deck of the pad. A chain conveyor carries the chips from the hopper into the shed to the Conveyair feeder which blows the chips through a 6-inch tube cut to the chute.

Chips manufactured by Lamford Cedar are being shipped to International Pulpwood Supply Co., Port Townsend, Wash.

• **NAMED MANAGER** of the mill at Winnfield, La., recently acquired by Olin-Mathieson Chemical Co. from Mansfield Hardwood Lbr. Co., is J. C. Conerly. The capacity of the mill will be doubled from its present 50M per day production. Conerly will serve under Robert H. Evans, vice president of the chemical company and manager of its Forest Products Division, who has removed headquarters from Shreveport, La., to West Monroe, La. To Frost (Union Sawmill Co., subsidiary) forest holdings, Olin-Mathieson recently added extended forest acreage acquired with Brown Paper Mill Co,. Monroe, La. Considerable acreage is adjacent to the Winnfield mill. Lumber production of the division is under direction of W. H. Brown, also named a vice president of Olin-Mathieson.

You'll Cut More Lumber With

The New Frick "Jumbo" Sawmill



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Fire Control Experts Hold Special Session

• In recognition of the growing dependence on controlling fire in the forest management field, a meeting of some 125 persons concerned with forest protection was held following close of the recent Western Forestry Conference in Portland, Ore. The group, consisting of industry, state and federal forest personnel and others concerned with various protection activities, sought ways and means of establishing a functional organization to most effectively promote fire control progress.

The objective was to establish an organized task force, under Western Forestry and Conservation Association sponsorship, similar to the Forest Pest Action Committee which has effectively handled the spruce budworm and other insect problems. Action toward that end, taken at this kick-off meeting of Western Fire Research Council, consisted of establishing general objectives and taking initial steps for forming committees in each of the 11 western states and British Columbia. Each will be headed by the respective state forester, as chairman, who will select committee members to most effectively meet needs of the program. The British Columbia committee is to be under the chairmanship of the district forester.

C. S. Cowan, Washington Forest Fire Assoc., Seattle, Wash., who presided at the council session, stressed the need for (1) research covering all three phases of fire problems—prevention, detection and suppression; and (2) an organization to act as a clearing house for most effective use of information developed pertaining to the fire field.

Action taken at the December meeting is intended to result in forming a functional organization effectively fulfilling these needs.

The 1956 Forest Industries Yearbook

• It's time to make your plans now for getting your copy of THE LUMBERMAN's big 1956 FOREST INDUSTRIES YEARBOOK, published March 25.

You will want this handy reference volume at your fingertips the year around to check up on important statistics about hardboard, lumber, plywood, logging and tree farming. Its 200-plus pages are information-packed with things you'll want to know—and need to know.

A look back at the 1955 issue will show you the complete range of subject matter covered. So plan now to place your order for the industry's biggest bargain — THE LUMBERMAN's 1956 FOREST INDUSTRIES YEARBOOK.

• **TREND OF THE** forest industry in coastal British Columbia is towards increasing production of plywood and pulp and paper rather than lumber, according to a brief submitted to the Royal Commission on Canada's Economic Prospects by the forest industry organizations of the province. Forests of interior B.C., on the other hand, have taken care of most of the increased lumber production over the past few years. For the next 20 years, at least, lumber will dominate the forest industry of the interior region, the brief maintains.

Biggest Timber Hearings

• Late this last fall, a series of joint Congressional committee hearings were held in principal cities of the west coast. They dealt with federal timber practices and were the most extensive ever held on the subject. One result of the hearings may be legislation to strengthen the hand of the Forest Service in obtaining reciprocal road rights from private owners; this phase was brought out in complaints from small mills and other testimony.

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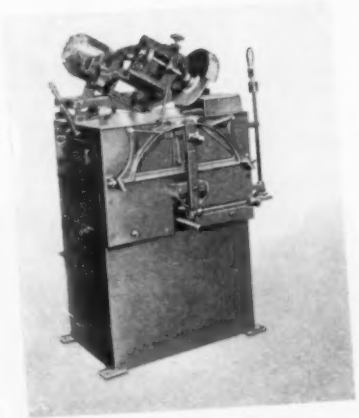

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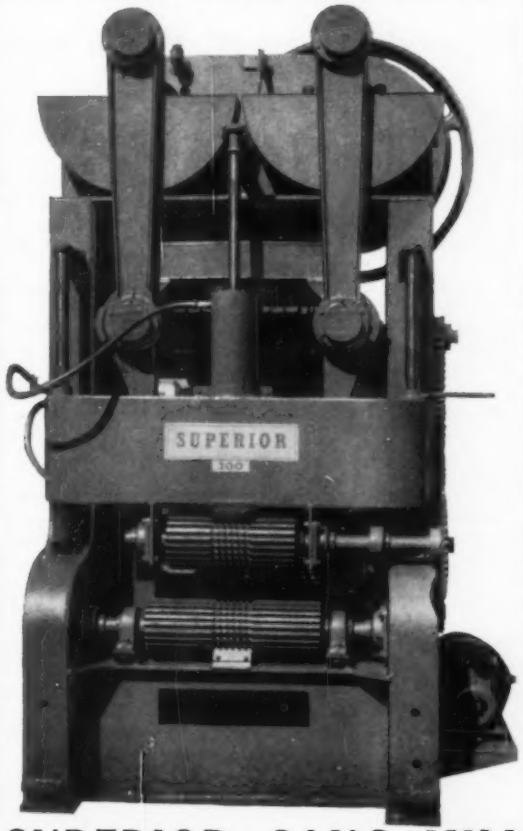

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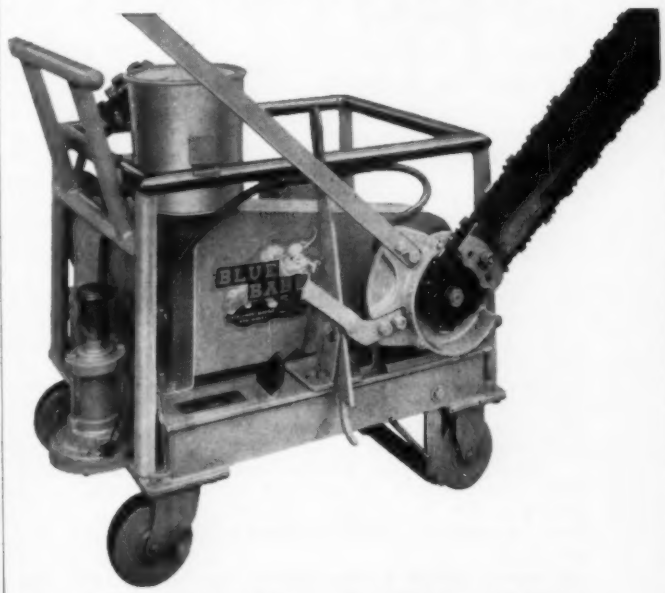

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Small Mills Help Southern Region

Small Mill Review
(Begins on p. 65)

is the opinion of authorities who have experience with production of these units

Editor's Note: The following contributed comments apply to the role of the small sawmill in the southern states.

Small Sawmills— Asset or Liability

by WALTON R. SMITH

• An analysis of the small sawmill problem becomes an analysis of the human beings that operate these sawmills.

A small sawmill properly maintained and operated can produce grade lumber accurately manufactured. The author knows several such sawmills cutting 5 to 15M ft. of hardwood lumber per day that any lumberman or forester would be proud of. These mills have efficient logging as well as milling operations and practice utilization as close as most large mills. They find sales for all products including slabs and edgings and in a few cases the sawdust.

Unfortunately, most portable sawmills are not so well operated and are notorious for their miscut lumber, their devastating forestry practices, and their piles of waste scattered over the landscape. Some of them move as many as 30 times a year.

A recent study of wood residue in North Carolina[1] reveals interesting facts concerning the small sawmill.

NORTH CAROLINA HAS a total of 3,597 such sawmills, 569 in the mountains, 2,039 in the Piedmont, and 989 in the Coastal Plain. This compares with only 48 larger mills that each cut more than 3 million feet a year. The annual lumber production of the small mills in the State amounts to approximately 1,086 million feet, whereas the large sawmills produce only 272 feet. The small North Carolina mills produce over 95 million cubic feet of wood residue each year compared to only 20 million cubic feet produced by large sawmills and 179 million cubic feet by all wood-using industries in the State.

Of the gross 95 million cubic feet of wood residue produced by small sawmills, 82 million cubic feet are available for other use, in other words not now finding commercial use.

The portable sawmill, however, cannot be brushed aside as a wasteful segment of industry that must be eliminated. It is extremely important to the economy of the area and more positive steps must be taken to improve them.

Short courses in sawmilling, crossroad conferences, and forestry field days are commonplace throughout the Southeast in an attempt to get at this problem. They are sponsored by the Forest Service, the State governments, TVA, State Extension Services, and others. The success of such efforts is quite varied.

WHERE SAWMILLS ARE cutting hardwoods that are sold on grade to wood-using plants or concentration yards, these educational efforts pay handsomely. Where these sawmills are cutting pine or hardwoods and sell the lumber on a lump sum basis to concentration yards or others, most of the educational efforts are lost, **since the sawmill operator must cut for high production in spite of degrade or miscuts, as his weekly income and profit are based entirely on the footage produced.**

Most of the small sawmills in the Southeast are in reality captive to the concentration yards or other wood-using industries who are financing them for stumpage, equipment, and often for operating capital.

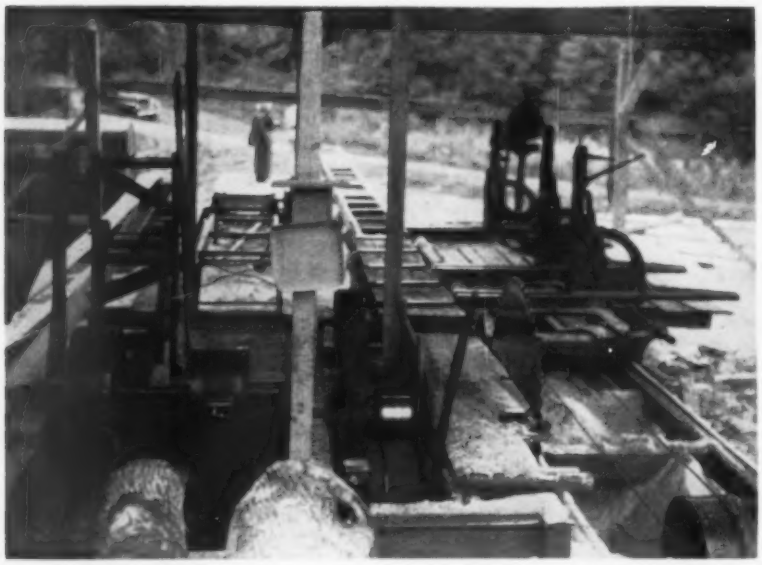
The key to the successful operation of most such sawmills in this territory lies in the hands of the concentration yards and lumber buyers. If they will demand and pay for well manufactured lumber, placing a premium on grade, the sawmill operators can and will produce such lumber. It is no longer a lack of knowledge about how to do the job, but a lack of incentive for doing it.

SMALL SAWMILLS CAN be much better equipped today than they could 10 years ago with mechanical devices available for log turning, dogging, improved set works, sawdust blowers, automatic slab cut up saws, roller conveyors, lumber lift equipment, and countless other labor-saving devices.

Also, marketing opportunities have improved and well manufactured lumber of most grades can be sold. In many areas, markets are developing for slabs and edgings that will be debarked, chipped, and sold to pulp mills or chipboard plants. This trend

Mr. Smith is Chief of the Forest Utilization Service, Southeastern Forest Experiment Station, U. S. Forest Service.

[1]Smith, Walton R., George H. Englerth, and Michael A. Taras. Wood Residue in North Carolina—Raw Material for Industry. N. C. Dept. of Conservation and Development, Raleigh. 59 pp., illus. 1955.



MANY SMALL SAWMILLS in the South are well designed, maintained and equipped to produce quality lumber. This photo of a small Southern mill was furnished by U. S. Forest Service.

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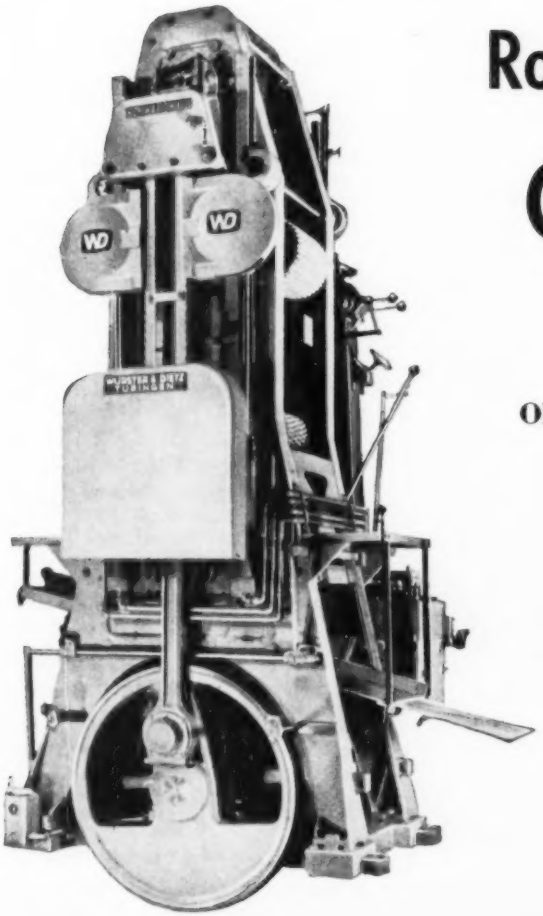

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will continue to increase and may well result in the added income that will keep many sawmills alive.

The portable sawmills properly operated are good for our forestry economy because they make timber valuable in even remote areas, because they provide labor for large numbers of persons, and because they create competition. They are undergoing a revolution in efficiency in the Southeast and they are a long way from being on the way out.

Automation Trends At The Small Sawmill

by Hal Redwine

• Up until 1942 the importance of the small sawmill was minimized by larger operators, the government and practically everyone else except the small operators themselves. They were completely disregarded in government statistics on lumber production, despite the fact that there were more than 30,000 of them, and they actually produced a majority of the lumber.

When a lumber shortage developed in World War II, however, it became clear that no solution could be found without the help of the many small mills. These important contributors to the national economy had finally achieved recognition. They played a tremendous part in overcoming one of the most critical shortages to face the nation.

After the war a vast rebuilding program called for more and more lumber. Many thousands of these smaller mills popped up wherever timber grew. The country, and particularly the South, was literally covered with "peckerwood" mills.

As demand leveled off, prices stabilized and costs began to increase, many of the marginal operators found the going too tough and ceased operations. Today there are operating probably no more than half the record number of 60,000 mills which the United States had in 1948.

SINCE LUMBER PRODUCTION remains high, despite the decline in number of mills, it is evident that we are developing a better type of small operator who can produce more lumber. Higher stumpage and increased labor costs have forced a trend to more efficient operations, modernized and mechanized. Automation has come even to small sawmills.

Like other manufacturers, Corley has spent many man-hours and many dollars in research, engineering and testing to bring to smaller operators the automatic machines they need to produce lumber profitably under today's trying conditions. Products developed include hydraulic feeds, hydraulic loaders and log turners, air carriages, automatic setworks and many other important improvements. A complete mill can be furnished, where all operations from the log deck to the edger can be handled by one man.

Corley also acquired the United States distributorship for Gebruder Linck, a German manufacturer of over 100 years experience. The gangsaws imported are designed for American timber and built to American standards.

There are now Linck gang saws available for the smaller mill. A typical example is a recent installation which Corley made at a mill in South Carolina. The operator has a small belt feed mill whose average production was 9,000 bfm per day. He still cants on this mill. His Linck, powered by a 50 hp. motor, required the addition of two more workmen, making a total of nine. He increased his cut to 31,000 bfm per day. He is getting tremendous overrun. His lumber is extremely true and accurate. But his total additional investment was less than $15,000.

In little more than a decade the small sawmill has grown from a kicking boy to a major factor in the lumber production industry. And, there's no stopping him. He'll continue to grow, as automation does its part to help cut that all important cost-per-thousand.

Mr. Redwine is vice president of Corley Manufacturing Company.

Trends in Circular Sawmill Operation

by JOHN W. LEHMAN

• A TVA survey of 58 circular sawmills in the Tennessee Valley in 1949-50 indicated that something had to be done about nonproductive time, management, and size and quality of logs if mill efficiency were to be improved. Over the past four years 35 sawmill conferences have been held throughout the Valley in cooperation with lumber industries, sawmill equipment manufacturers, and state agencies, all aimed at these three problems.

In 1955 the circular mills were again sampled to find out whether any significant changes had occurred during the five-year period. The resurvey included 39 of the original mills and 19 substitutes for mills that had either gone out of business or moved outside the Valley.

Comparison of the two surveys shows that nonproductive time has decreased, efficiency of the mills has increased, but log size and quality has decreased. The trend is toward more permanently located mills, a better balance of manpower and equipment, and improvement in managerial skill. The problem of obtaining an adequate supply of quality logs is becoming more acute. However, some mills are solving this problem by improved methods of stumpage purchase and more attention to marketing.

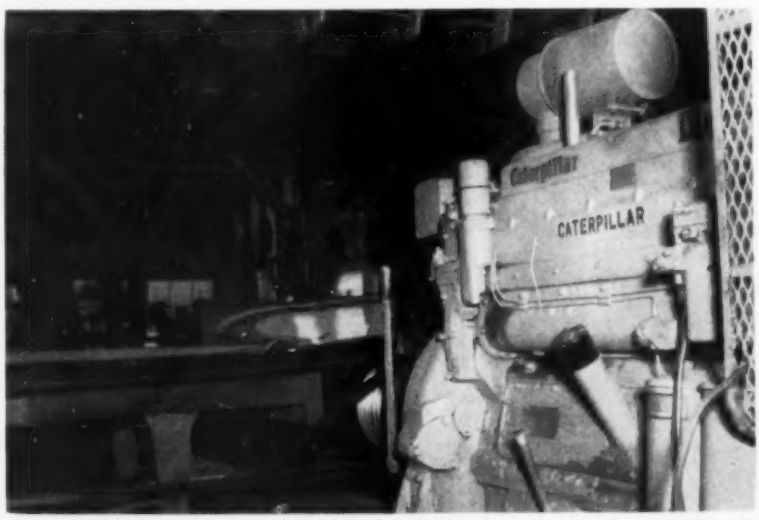
Mr. Lehman is with the Tennessee Valley Authority, Norris, Tenn.

Non-Productive Time

Non-productive time was materially reduced, from an average of two hours to one hour and 33 minutes. Based on 1950 production, 27 more operating minutes per day would mean an increase in production of 420 board feet, or about 42,000 board feet annually.

Eighty-seven percent of the lost time can be charged to filing and changing the saw, log and lumber tie-ups, and repairs to dust chain, belts, etc. Filing and changing saws account for over half of it—46 percent. Each of these three causes can be practically eliminated through better management.

In 1950, lost time from weather and



C. L. MOFFETT's new small sawmill at Natchez, Miss. Caterpillar Diesel No. D-337 pulls a Corley No. 440 headrig. Production is 15M per day (hardwoods) with 15 men including filer.

Small Sawmill Review

miscellaneous causes at large mills amounted to 45 minutes a day, lost for the most part because roofless mills had to shut down for every shower. In 1955 every large mill had a roof and had cut miscellaneous lost time to 4 minutes.

The top 10 percent of mills in 1955 averaged only 23.5 minutes of lost time and 28 percent lost less than one hour. One hour is a reasonable lost-time goal to shoot at. This is one place where good management can make up in part for the increased costs resulting from a higher minimum wage.

Apparent Efficiency Increase

The increased production of 912 board feet per day is much greater than the 420 board feet per day gained by reduction of lost time. Therefore, the difference must be the result of improved equipment and other management practices. There are several indications that tend to substantiate this. It is generally agreed that horsepower of the power unit, size of headsaw, and use of edgers are major factors influencing production. During the past five years, there have been changes in each of these three items. Average horsepower of power units has increased from 76 to 88. Average size of headsaw increased from 54 inches to 56 inches. And number of mills with edgers increased 8 percent.

Although average age of equipment increased, there are indications that equipment is being replaced as it wears out. If there had been no equipment replacement, the average age in 1955 would have been 10 years for mills and 12.5 years for power units. Actually average ages were 6.5 and 8 years respectively.

Two other changes reflect better management: One is increase in mill size class and the other is fewer portable mills. Since 1950, 16 percent of the mills have changed from small to medium or from medium to large size class. The reduction in the number of portable mills from 55 percent to 38 percent is an indication that operators recognize the advantages of a permanent site. While there are a number of such advantages, the key ones seem to be better facilities for handling logs, lumber, and slabs, better access, and adequate housing. This shift to permanent locations appears to be on the increase.

With relatively little increase in average crew size, man-day production increased 163 board feet. Better crew organization and improved facilities are logical explanations for this increase.

These changes indicate that managerial skill is being exercised, that manpower and equipment are better balanced. The results are increased man-day and mill-day production despite a decrease in average log size.

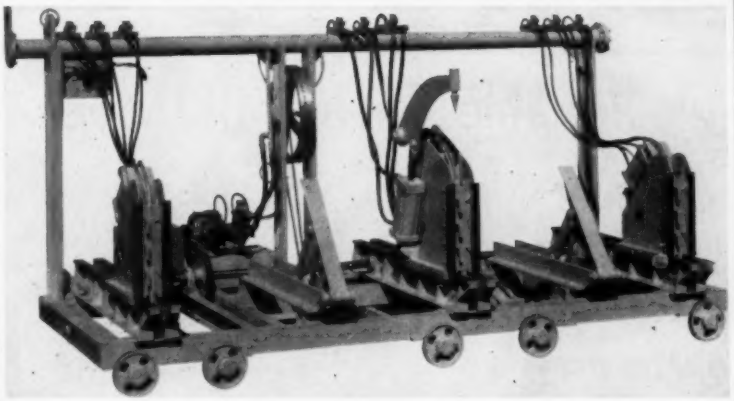
1 Common and Better lumber is 27.5 percent as against 21 percent for the others. Their average daily production is 7,629 board feet as compared with 5,956 board feet. Their power units averaged 96 horsepower as against 83 horsepower. They operate 143 days a year while the others operate only 100 days.

Size and Quality of Logs

Unfortunately, there has been a decrease in the average log size and a resultant decrease in the quality of lumber produced. The diameter of the average log decreased from 10.9 inches to 10.1 inches, the volume from 57 board feet to 45 board feet. The percentage of No. 1 Common and Better lumber dropped from 25 percent to 21 percent.

Log quality has also decreased. The proportion of grade 1 logs went down from 7.7 percent to 3.6 percent, while grade 4 logs increased from 8 percent to 17.6 percent. The proportions of grade 2 and grade 3 logs stayed about the same. A comparison of butt logs also indicates the trend toward lower quality. For factory grade butt logs, 27.7 percent were grade 1 in 1950, only 12.6 percent in 1955. Grade 2 logs increased from 37 percent to 48.2 percent and grade 3 from

There must be a reason!



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35.3 percent to 39.2 percent.

Some operators, faced with lower quality logs are actively seeking new and better markets for their products. One East Tennessee operator studied five years ago was cutting his logs into boards, hauling them to the nearest market, and accepting whatever price was offered. If the price got too low he just quit sawing. Now before he cuts a single tree on a tract he finds markets for all the products he thinks he can harvest from the area.

This trend toward smaller size and lower quality logs is of course due to the increasing scarcity of high quality stumpage. Sometime in the future, as additional forest acreage is put under management, this trend will be reversed. But for the near future, operators will have to face this problem of low-quality logs.

There seems to be a definite trend toward more marked-tree or diameter-limit stumpage sales. In 1950 seven of the sample mills were buying marked stumpage and two were cutting to a diameter limit. In 1955, 17 mills were cutting marked trees and seven were cutting to a diameter limit.

A comparison of these 24 mills with the others shows that logs are larger and lumber quality higher, that general efficiency and management are better. This indicates that the more alert and progressive operators are also better managers. For example, their average log diameter is 12 inches as compared with 10.7 inches for the other mills. Their proportion of No.

Although quality logs of good size are harder and harder to find, some operators are finding them. For example, 20 percent of the mills in 1955 were operating on logs that averaged 14 inches and up. The better operators are improving stumpage purchase methods and are making an effort to find favorable markets.

Southern Mills Use Concentration Yards

• Lumber produced by small mills in the southern region reaches the market through a diversity of channels; there being some variance due to whether pine or hardwoods are involved.

Purchase of rough green pine lumber is largely standard practice among the larger mills beginning with such operations as Kirby Lumber Corp., whose Silsbee plant is set to handle a million feet annually from this source, the Southern Pine Lumber Co. at Diboll (also Texas). Blending or portable mill products extends down to the smallest size. When the merging of rough green reaches a drying and finishing plant not actually operating a sawmill on site its handling is recognized as being performed in a "concentration yard." This concentration

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yard designation applies up to the point where the purchased stock becomes supplemental.

Portable mills may have almost any type of owner who may be an operator of limited capital resources, producing independently for a contractor, a retail yard with finishing facilities, a concentration yard or a sawmill. Conversely any of the above receivers may be owners of the producing unit, or units.

Sawmill equipment manufacturers and forest leaders in the south have been working hard to instill principles of good management into portable mill operators, emphasizing (1) need to avoid logging and sawmilling of too small trees so as to eliminate unprofitable practices, (2) production of items for which an actual market demand exists, (3) organization of the sawmilling to reduce "down time", and, (4) use of modern labor saving, efficient, and accurate equipment.

From adoption of (1) will come preservation of forest stand and reduction of operational losses, from (2) minimizing of the over-burden of low grades carried by quality lumber, from (3) a more profitable operation yield profit margins creating capital, and from (4) creation of a stabilized profitable venture in which the owner will remain in production.

Two Small B. C. Sawmills

(Continued from page 73)

leased from Pacific Leasing Corporation of Vancouver. The live deck features a two-arm air controlled log stop and loader supplied through Allard Engineering of New Westminster, and a low mill air nigger provided by Galbraith & Sully, Vancouver. These automatic controls, air operated by the sawyer, eliminate manual labor on the log deck.

THE FULLY AUTOMATIC carriage was supplied through Hafer Machine Works, Victoria. It has a 44-inch opening, 12-inch diameter wheels, air-operated board dogs and air operated cant flipper. Elworthy and Co. provided the electric set works and a pantograph for supporting cables to the carriage. The drive unit is three horsepower rating with electric brake and Opperman gear reducer. A special control allows the sawyer to set either of two sizes by simply pressing his button. Control buttons for the dogs are incorporated with the setter's button and mounted on the nigger lever.

The Hydra-feed four-inch carriage feed works has finger-tip control and was supplied through Okanagan Equipment. A Galbraith & Sully Trojan husk is of all steel construction with ballbearing top and bottom arbors running 48-inch diameter 6-7 gauge Simonds top and bottom saws.

Main equipment in the planing mill is a Newman model "500" planer, equipped with an automatic feed table designed and built by Timber Management Ltd. The cutting head is driven by a 50 hp electric motor through Roto-Cone variable pitch pulley.

All material for the edger and gang saw pass along on one transfer. The edgerman has complete control of the transfer and also controls the cants to the gang which pass by the edger infeed table and onto the gang transfer. Material from the gang and edger feed out to a common transfer which leads to a sorting station where edgings are dropped into a waste trough and then carried to a 45-foot single wall type Rees burner. From the sorting station lumber either jump skids over the waste trough to the main roll case and then to the covered green chain, or jump skids over both waste trough and main roll case to the planing mill.

Fully qualified graders are employed, and all lumber meeting the required standards carries the company trade mark "TSD".

President of the new mill is C. W. Brazier. George Catchpole is manager, and mill foreman is Jack Walters. The mill was designed by Cliff G. Moore, production manager for Timber Management Ltd.

Marketing director, Harvey A. McDiarmid is president of the B. C. Interior Lumber Manufacturers' Association.

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Small Sawmill Review

Everyone Likes the Small Mill

(Continued from page 67)

the small mill is more concerned with volume and manufacturing good lumber. If on the average around 80 percent of the mills cut grades No. 2 or better and No. 3 does not exceed 15 percent of the cut and No. 4 not over 3 or 4 percent, the mill is doing okay. Generally speaking there appears to be less low grade lumber in second growth logs than in the old growth.

"Jack-of-All-Trades"

The small mill owner in a far greater degree than the big mill operator, must be a man of many facets. All details are for the most part in his own hands. He must do the planning, the log procurement work, the engineering and designing, the selling, the buying, the hiring and firing, and handle the financing. He must be a master of many jobs.

So the "secret" of success in the small sawmill field is hard work, close attention to all details, careful and continuous planning, the best and most modern machinery and equipment the circumstances permit, lowest possible labor costs, as complete control and participation in as many phases of production as possible, a consistently well manufactured product, good sales outlets. All these, and others keep the operation in good competitive position.

Mills Plane Lumber

(Continued from page 73)

gone into interior mills, too, notably at Boundary Sawmills at Midway, Canford Lumber Co., and Western Skagit Timber Co. Northern Spruce Mills is one of the few operations in the North that has installed an entirely new mill, with combination head rig and gang, at Frost Lake.

Use of compressed air in log ponds is a new development in at least one interior mill, Pondosa Pine Co. and Nicola Valley Perforated pipes are laid along the bottom of the pond and compressed air pumped into them. While ice at the surface may not be entirely thawed, a temperature of some 38 degrees is attained at the bottom in even the coldest weather and the whole pond is affected appreciably. Western Plywood Co. at Quesnel uses steam chambers to keep its peeler stock in condition for the lathes.

At Salmo, in an area better known for mining than for lumber production, hydraulic setworks (Oilgear) have been installed in the carriage drive—a novelty for that district, although familiar on the coast. A similar installation at Keeley Lumber Co., Vancouver, for instance, makes it possible for the sawyer to operate carriage, docking and the log deck.

One new development in British Columbia during the past year has been the start-up of several stud mills. Passmore Lumber Co., managed by Gordon Burns in the Slocan, is operating a stud mill to utilize small logs from its forest management area, and there are several other similar plants in the Cariboo and Burns Lake district. Indicative of the improvements being made at smaller mills is recent installation of an automatic sorter at the Passmore operation and a vertical edger at Bessette Timber Forest Products, Kamloops.

• Research foresters of the Oregon state forestry department scanned seven million Douglas fir seedlings in the selection of 300 2-year-olds of superior height which may provide the nucleus for a superior strain of lumber trees.

More than a month was required to choose the 300 choice seedlings from the year's supply of small Douglas firs at the Oregon forest nursery.

For the next five years, 300 selected seedlings will be compared with the growth of regular seedlings in experimental plantations. If they outstrip these in continued growth, foresters feel they may have hit upon something of value.

FINE SAWMILL MACHINERY

I. W. JOHNSON ENGINEERING CO. has built many edgers for use in stud mills similar to the unit illustrated (4" x 72"), which is now operating at Cheney Calif. Lumber Co., Greenville, Calif. Others can be seen at Anderson-Middleton Lumber Co., Aberdeen, Wash.; Olympic Hardwood Co., Raymond, Wash.; Coast Pacific Lumber Co., Eureka, Calif.; Zip-O-Log Mills, Eugene, Ore.; Umpqua Plywood, Tiller, Ore.; Precision Lumber Co., Bayside, Calif.; Sea Stud, Inc., Roseburg, Ore.; Hollow Tree Lumber Co., Ukiah, Calif.

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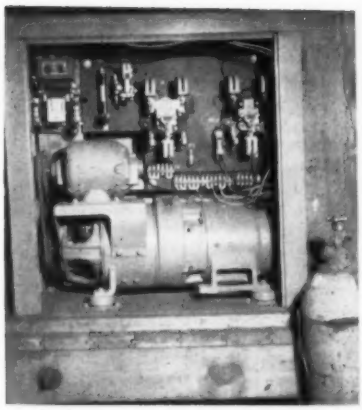
Small Sawmill Review



MG COMPONENT of GE Speed Variator (pint size amplidyne) powering gang feedrolls with infinite feed speed variation to max. rate.

Gang Cuts Small Logs

(Continued from page 74)

ner pointed out, makes for important capital savings and takes up considerably less space than would more conventional arrangements. It's just 12 feet from center of the motor shaft to center of gang's drive shaft. The swing base eliminates the need for belt tighteners.

All electric motors, including gearhead motors, in the plant are General Electric except for one (of 75 hp.) driving edger saws. A G.. E. d.c. Variator (pint size amplidyne) powers the gang feedrolls with infinite feed speed variation up to maximum rate from 0-40 fpm.

Processing components behind the gang consist of a 6x48 Klamath Machine & Locomotive stub edger, with all movable saws, and a two-saw push-pull trimmer. Trimmed stock emerges from the mill onto green chain for pulling and piling.

Kogap carriers remove the packaged lumber from greenchain area, transporting it to Kogap's planingmill or dry kilns for subsequent processing.

Refuse resulting from processing in the gangmill drops into a steel conveyor which extends full length of the mill, and terminates at the Kogap burner.

Devices Save Labor

(Continued from page 71)

but enables the trimmerman to produce more lumber for the same effort.

RESAW. A resaw used in conjunction with a headrig has been found by many small mills to be a valuable labor saving device in increasing productivity. Resaw manufacturers are developing resaws designed for the small mill. One manufacturer has recently put out an electric roll opening and closing device and a lever set for its vertical band resaw which makes the standard resaw very adaptable for small sawmill use.

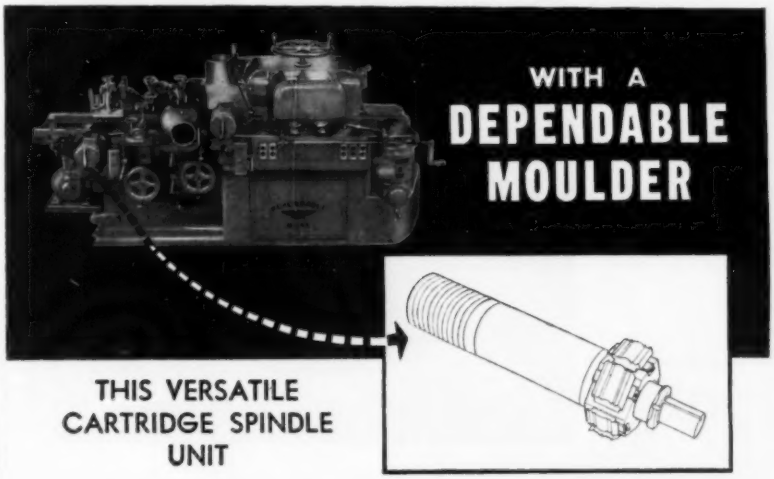
GREEN CHAIN. Many small log mills in the South and East do not use green chains, but deliver unsorted lumber directly to the concentration yard. These mills are using new devices which make **fork** and **straddle** trucks very useful for this purpose.

A packaged air operated **Swede Pulling Roll** to pull selected sizes for resawing is a new mechanical device.

Several mill operators have developed ingenious sorting devices for their mills, but as yet there are no packaged automatic green chains on the market for small mills.

Every year new devices for helping the small mill do its job with greater efficiency and less operating cost appear on the market. The trend is toward packaged devices, as automatic as possible, which the operator can buy, install in his mill and run with the minimum of maintenance. This trend offers mill operators hope of steadily increasing efficiency in sawmilling.

NEW TIMBER MANAGEMENT staff assistant on the Olympic NF, Olympia, Wash., is Thos. Greathouse, formerly ranger at Crescent, Ore. He succeeds Jay Grant, transferred to Rogue River NF, Medford, Ore.



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Company Manages Land

(Continued from page 94)

lake. One tract of 390 acres is owned by a group of heirs, all over 60 years of age.

Some owners are in the absentee class, under a thoughtful management that selectively cuts while opening up growth by taking out wolf trees, felling useless units, and in general handling the stand as though company fee. All this is within prudent economic limits.

OUTSTANDING EXAMPLE of "at home" ownership is that of the 1,000 acre homestead of George Bell, whose family occupancy runs from 1812. Cattleman and general farmer, this owner has 639 acres in timber. His nephew, Herbert Bell, a graduate in vocational agriculture from Louisiana State University, participates in management. He is a member of the parish (county) agricultural committee.

Zemurray interests, still larger owners, acquired lands from Superior Piling company running into thousands of acres. These are managed for cattle, tung tree orchards (for oil), sheep, and timber.

Modern equipment is used in the woods. On one operation five men with one loader send 3500 to 3600 feet average daily to the 18 mile distant mill. Another 21 man crew with two loaders with two trucks each, two Poulan saws, and an 18 mile haul deliver 16000 feet daily (average) to the mill. Two trucks, Ford F-7, are equipped with Nabors trailer with safety stakes pulled from opposite side.

Redwood Region Logging Conf. Discusses Plans

• Program plans for the 1956 Redwood Region Logging Conference at Ukiah, California, May 25 and 26, include a discussion on the logger himself, his outlook and his responsibilities.

Other subjects considered for possible discussion: The 1955 forest fire season; the impact of additional pulp and paper industry in the region; stream clearance problems related to logging; stricter enforcement of the State Forest Practice Rules; licensing and bonding of logging contractors to protect land owners; cutting of second growth timber; and the interrelation of logging and recreational use of land.

The Ukiah equipment dealers' group is encouraging exhibits from foreign manufacturers of logging equipment. Vic Jones is general chairman of the equipment dealers, with Earl Fullerton handling the equipment show, and Walker Tilley heading the Logger's Fair equipment parade.

Red Cedar Shingle Bureau Holds Annual Meeting

• Most red cedar shingle mills operated at capacity during 1955, and the year's total production will exceed the 1954 mark by about 15%. Prospects for the future are good. These facts and figures were brought out at the Red Cedar Shingle Bureau's annual meeting in Seattle, Wash., Dec. 9.

Sec.-Treas. Peterson points out that the industry is in good condition when it "holds its own." He said, "We participate in a comparatively small portion of the overall building market. Our supply is limited and we do not seek to greatly increase our production. Presently we have 13% of the roofing market and 13% of the wall market. With housing continuing strong, and with our industry's newly planned research program, we expect a good year in '56."

Panellizing of shingles by shingle manufacturers as well as by shingle processors who also stain and groove accounts for a growing market for shingles. This practice consists of affixing shingles to a backing, such as insulating board, which homebuilders can install with very little time and expense.

In the interests of better cedar utilization, the Bureau passed a resolution recommending a research program be undertaken to develop a new and improved shingle specifically designed for conversion into machine grooved sidewall shakes.

During the last year, an organization known as the Hand Split Red Cedar Shake Association became affiliated with the Red Cedar Shingle Bureau. The Bureau is going to go ahead with promotion of the hand split shakes under the Bureau-owned trade-name "Certi-Split." This trademark follows in line with the other "Certigrade" and "Certigroove" brand names.

Headed by A. B. Ferguson of the Aloha Shake Co., Aloha, Wash., the hand split shake group is the first such organization that industry has ever had. There are 46 mills represented.

Several new members joined the Bureau in 1955. One hundred and twenty four mills and 623 upright machines are represented. Twenty-five plants now make machine grooved shakes.

The pre-fab home business has skyrocketed in recent years, Harry H. Steidle, manager, Prefabricated Home Mfrs.' Institute, Washington, D. C., told the Bureau and its guests at its annual luncheon. He said, "Eventually, all but the most expensive homes will be pre-fabricated. In 1955, an expected 10% of the housing starts will be pre-fab dwellings." He also said that volume application of shingles in this market is a definite possibility.

LOOKING FORWARD TO another good year in '56 are (Left to Right): H. R. WHITTALL; president, Red Cedar Shingle Bureau; HARRY H. STEIDLE, Mgr., Prefab. Home Mfrs. Institute; and VIRGIL G. PETERSON, secretary-treas. They are studying pictures of a machine which prefabricates shingled wall panels.

H. V. Whittall, Canadian Forest Products, Ltd., Vancouver, Bureau president, was reelected, along with Vice Pres. R. D. Mackie, Mackie Mill Co., Markham, Wash., and Virgil G. Peterson, sec.-treas. New trustees are Ben Hanich, Jamison Lumber & Shingle Co., Everett, Wash., and Melvin Lester, Lester Shingle Co., Sweet Home, Ore.

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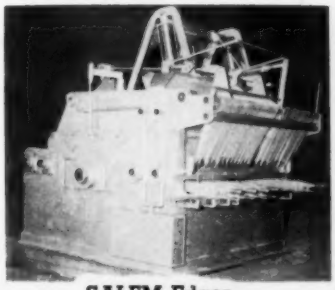

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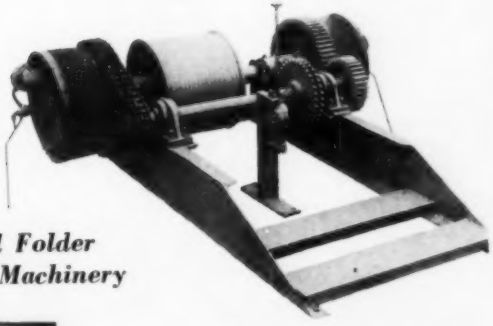

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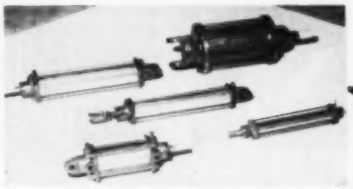

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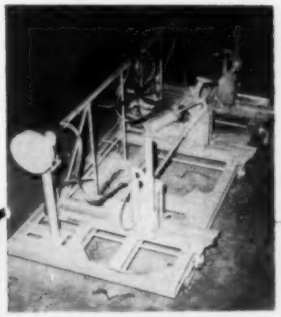

SALEM Carriage

NEW OFFICERS OF NLMA, elected at annual meeting in Washington, D. C. in Nov., are (L. to R.): LEO V. BODINE, exec. v.p; HENRY BAHR, sec.; JUDD GREENMAN, board chairman; LAWRENCE D. KELLOGG, president, WALTER M. LEUTHOLD, 1st v.p.; J. R. BEMIS, policy chrm.

KENTUCKY COL., C. D. "BOB" DOSKER, recently commissioned to that post, receives NLMA commendation from JUDD GREENMAN.

"Do More Research"

is advice of speaker at annual session of National Lumber Manufacturers Association

MEETING IN WASHINGTON, D. C., Nov. 14-16, directors of the National Lumber Manufacturers Association voted to expand the association's technical assistance to builders, architects and engineers. The action authorized the association to prepare:

- A "how-to-do-it" manual on recommended framing and construction details, for use by carpenters and building foremen.
- Publish additional data on the cost of wood construction versus other building methods, for use by architects and engineers.

NLMA directors also voted to keep up to date on research activities of the forest products industries and to conduct preliminary investigations of promising research "leads".

The lumbermen also voted to continue the annual scholarship program, which provides for $500 scholarships annually to four outstanding forestry school students. The students also receive travel expenses to and from Washington, D. C., where they receive ten weeks of instruction in wood technology and utilization from Timber Engineering Company, research affiliate of NLMA.

Speakers included former Rep. Fred Hartley, N. J.; P. S. Knox, pres., Prefabricated Home Manufacturers' Institute; James Cope, vice pres., Chrysler Corp., Lloyd A. Hatch, vice pres., Minnesota Mining & Mfg. Co.

HARTLEY CALLED FOR "strengthening" of the Taft-Hartley Act and said management should "start punching and stop alibing" for the statute. He urged amendments which would: give workers kept from their jobs by "mob action" the right to sue for loss of wages; make the unions subject to anti-trust law penalties whenever their actions cause restraint of trade. Hartley predicted that the next session of Congress will not amend Taft-Hartley.

Knox said that lumber's share of the housing market could be vastly increased if lumber manufacturers catered more to housing as a major end-product consumer of labor.

He also urged a speed-up in the simplification and standardization of lumber sizes and called for closer cooperation between lumbermen and prefab home producers to cut overhead expenses and reduce waste. He said prefab men will use the knowledge gained from more frequent get-togethers with lumbermen "to build better houses at lower cost—using more lumber." 1956 consumption will be doubled.

Last year, according to Knox, prefab housing consumed more than 400 million board feet of lumber, some 250 million feet of plywood, more than 78 million board feet of flooring, 847,000 doors, and some 52 million feet of wood trim.

COPE SAID COMPANIES striving to out-do the competition must realize that their customers expect "tomorrow's promise as a living experience today."

The Chrysler executive identified research as the principal means of satisfying the customer's urge for self-expression and self-betterment in the products he buys.

Cope applauded "the very intelligent performance on public relations and promotional fronts which has been shown by many segments of the lumber industry."

Hatch's remarks were keyed to research. His company, in the last 30 years, has achieved $27 in sales for every dollar invested in research. Hatch drew a line between "defensive technical" research programs and "new growth or promotional" research projects. The former protects business from its immediate competitors and searches for lower costs or better ways of doing the present job. It usually pays its way in a few years. The latter provides a basis for new growth or promotional research and development. Here the bill will be much higher and both the hazards and rewards greater.

DEMONSTRATED WAS a device, an electronic transmitter and receiver, which sends out electronic impulses which are converted into sound waves by a piece of quartz. The sound waves penetrate and, in effect, X-ray the wood being tested, which is relayed to

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Board chairman: Judd Greenman, Vernonia, Ore.
First Vice-Pres.: Walter M. Leuthold, Deer Park Pine Ind., Deer Park, Wash.
Regional Vice-Pres. for 1955: A. L. Helmer, pres., Western Pine Assoc.; N. B. Guistina, pres., West Coast Lumbermen's Assoc.; Arthur Temple, Jr., pres., Southern Pine Assoc.; Henry W. Jones, vice-pres., Southern Hardwood Producers, Inc.

LLOYD A. HATCH, (L.) Minn. Mining & Mfg. Co., stressed industry research developments. FRED HARTLEY, (R.) ex-rep., N. J., said Taft-Hartley needs "strengthening amendments".

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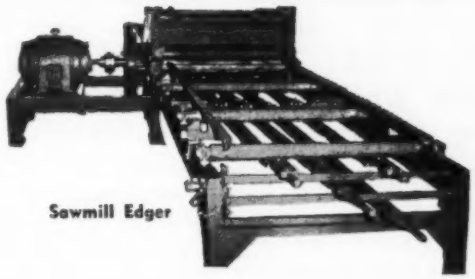

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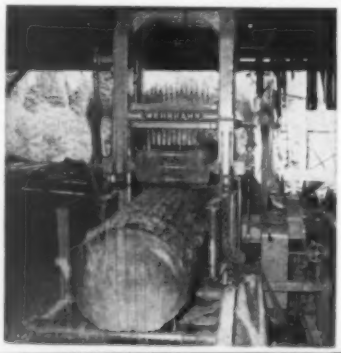

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REDUCE COSTS Swing and Shift more loads per day — speed carloading, reduce clutch and tire wear.

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a cathode ray tube with a slightly jagged horizontal line.

When the sound waves come across a knot, void or split, there is a sharp variation in the horizontal line. The sound waves point up imperfections in the wood whether they're visible or hidden.

New Directors

Thirty-six directors representing federated associations and 15 directors at large were elected at the annual meeting of the NLMA. Thirty-six alternate directors were also elected.

American Walnut Manufacturers—Chester B. Stem. **Appalachian Hardwood Manufacturers, Inc.**—J. W. Damron, Thomas J. McHugh. **Fine Hardwoods**—J. T. Mengel. **Hardwood Dimension Manufacturers**—Omar Hilton. **Hardwood Plywood Institute**—D. E. Nichols. **Mahogany Assoc., Inc.**—I. T. Williams. **Maple Flooring Manufacturers Assoc.**—D. S. DeWitt.

National Oak Flooring Manufacturers—J. G. Smith, W. W. Miller, Jr. **Northeastern Lumber Manufacturers**—Kenneth Hancock and Rand Stowell. **Northern Hemlock & Hardwood Manufacturers**—Abbott Fox and A. E. Swanke. **Northern Pine Manufacturers**—D. J. Winton. **Southern Cypress Manufacturers**—W. W. Simmons. **Southern Hardwood Producers, Inc.**—John W. Bailey, Mark Townsend.

Southern Pine—J. R. Bemis, Leon Clancy, D. V. Dierks, A. P. Downing, E. O. Lightsey, Arthur Temple, Jr.

West Coast Lumbermen's—George Flanagan, Earl Houston, Eliot H. Jenkins, G. E. Karlen, A. A. Lausmann, William Swindells.

Western Pine——U. R. Armstrong, J. D. Bronson, Homer B. Jamison, Walter S. Johnson, W. M. Leuthold, E. C. Olson.

Directors at large: C. Arthur Bruce, J. L. Camp, Jr., Leonard G. Carpenter, William P. Davis, C. D. Dosker, R. S. Douglas, M. L. Fleishel, A. J. Glassow, Luther O. Griffith, Ralph R. Macartney, N. F. McGowin, Lee Robinson, John B. Veach, Corydon Wagner and J. M. White.

TECO research experts explained that this technique could bring about automatic stress grading of lumber. They said ultrasonics also may have practical application in measuring the smoothness of furniture surfaces and testing the glue lines in plywood and laminated timbers.

Singled out for special tribute at the meeting was C. D. "Bob" Dosker, pres., Gamble Brothers, Inc., Louisville, Ky., hardwood dimension manufacturer. Dosker, NLMA director at large and a member of the association's executive committee, was recently commissioned a Kentucky Colonel by his state.

Committee Chairmen

Two new chairmen of standing committees were elected by NLMA. Thomas J. McHugh, Atlantic Lumber Co., Boston, Mass., was elected chairman of the Public Relations Committee. S. M. Nickey, Jr., Nickey Bros., Inc., Memphis, Tenn., was elected chairman of the Foreign Trade Committee.

Officers of the six standing committees for 1956 are:

Building Codes and Trade Promotion: L. J. Carr, Sacramento, Calif., chairman; C. D. Dosker, Louisville, Ky., vice chairman.

Public Relations: Thomas J. McHugh, Boston, Mass., chairman, J. D. Bronson, Yakima, Wash., vice chairman.

Forest Management: Adrian P. Downing, Brewton, Ala., chairman; J. M. Brown, Jr., Sandpoint, Ida., vice chairman.

Lumber Standards: W. W. Simmons, Jacksonville, Fla., chairman; S. V. Fullaway, Jr., Portland, Ore., vice chairman.

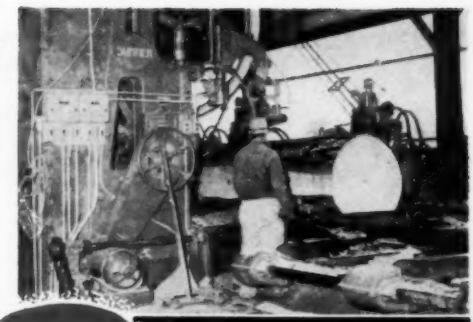
Foreign Trade: S. M. Nickey, Jr., Memphis, Tenn., chairman; Corydon Wagner, Tacoma, Wash., vice chairman.

Products and Research: George Flanagan, Medford, Ore., chairman; D. S. DeWitt, Oconto, Wis., vice chairman.

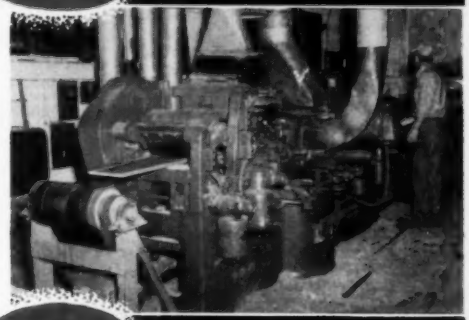
What have we here?

"Fingertip" control pilots every Zidell Drive to greater savings, higher production!

Zidell Electric Log Carriage Drives are of the finest design, materials and workmanship . . . yet will withstand rigors of rough industrial service. Amazing "Fingertip" control and a special exciter system permit extremely smooth acceleration and deceleration resulting in longer cable life and less maintenance on all moving parts! This coupled with less fatigue for the sawyer and constant command of carriage speed and direction of travel mean greater savings and higher production for you!



ZIDELL for LOG CARRIAGE DRIVES



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And, Zidell for Resaw Feed Rolls, Conveyors, Transfer Chains, Woodworking Machinery, Paper Mill Machinery, Plywood Lathes or any application where variable speed, constant torque and extreme flexibility are necessary.

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ENTIRE BUNDLE OF core veneer is cut into desired lengths with L-M Eqpt. Co. chainsaw with Ore. Eqpt. Co. chisel-bit saw chain at Lane Plywood, Eugene, Ore. Shown, JACK PAUL, supt.

Chain Saws Make Core Stock

from dry veneer in new method that is saving operators time and money

REMARKABLE SAVINGS ARE being derived by sawing core veneer "a bundle at a time" instead of just a few pieces, as in the past. It's being done with chain saws, which convert 4x8 foot core veneer to desired size, ready for glue application. Estimates of savings specified for various mills range upward from a low of around $2,500 per month. The highest per-month saving reported to date in a single mill by converting to chain saw for cores is a whopping $7,000!

Although chain saws have been used for some time to cut green veneer, of which one of the earlier applications was the Giustina Veneer Co. plant in Eugene, Ore., application of the chain to dry veneer has been developed just recently.

Jack Paul, superintendent of Lane Plywood Co., Eugene, is generally credited with the original in-plant production application of saw chain for reducing full-length dry core veneer to desired glue-spreader lengths.

Where it previously required two men one hour, and considerable handling, to saw a 56-in. high bundle of veneer, a 36-in. high bundle is cut to size in a couple of minutes with a chain saw.

Pioneer installations of core-stock chain saws are expected to undergo further refinement. Management of the various mills are generally anxious to get the units into production as soon as possible and add the operating conveniences later.

A REPRESENTATIVE INSTALLATION consists of a steel frame with low bottom rolls, butt plate and back-side line-up bars. A package of veneer, arriving via fork truck from dry sorting table, is positioned on the roll deck so the end is against butt plate and one side along the line-up bars. Some sort of veneer hold-down device—ranging from an over-the-top chain or cable tightly secured by log-load binder to cylinder activated hold-down plate—is then brought to bear on the veneer.

The operator then brings the chain saw—an integral component of the assembly—into action, quickly cutting through the entire bundle. Upon returning the saw to retracted postion, the hold-down is released and the lift truck removes the cut-to-size veneer packages which are immediately ready for glue-spreader processing.

Users say chainsawing of veneer also has the advantage of making for quick change-over of panel sizes. Changes in the past required advance planning and scheduling, or waiting until the core stock was cut to size, or reserve stocks of different sizes. Now the conversion can be made in a matter of a few minutes.

Lane Plywood's Mr. Paul, telling of how the technique and equipment was developed at his plant, pointed out that the conventional deck chain saw which he originally used was modified in various ways until it effectively met the production requirements, including making clean cuts in the veneer. He has extended one line of the plant's blower system to the core-cutting machine. There the main intake picks up sawdust coming from the saw chain. A non-collapsible hose also connects into the blow pipe and serves as an auxiliary. This is used for general clean-up around the machine and for removing sawdust from freshly cut ends of the veneer package.

Chain saw manufacturers recognized this new application and are now producing equipment specially designed for processing core veneer.

BLUE BABE chainsaw unit made by Northwest Marine Iron Works, converts core veneer to specific lengths for the glue spreader in new Natron Kilns, Inc., plant at Jasper, Ore.

• **ENCOURAGEMENT TO ENTER** the forestry field has been provided by the donation of three $400 scholarships to the University of British Columbia by MacMillan and Bloedel Ltd.

Two of the awards will be made to first-year arts students entering first year forestry this year, and one will be made to a first year arts student starting out on the forest engineering course. Awards will be made on the basis of academic standing, personal qualities and interest in the field.

FROM LEFT: PAGE GILBERT, K. B. Woods & Assoc., Inc.; CHET WILLIAMS, BLM; SPENCER B. GROSS, pres. ASP, Col. Rvr. Sect.

DISCUSSING AERIAL photography are, L.: Prof. J. R. DILWORTH, OSC Forestry School; H. G. CHICKERING, JR., Eugene, Ore.

FROM LEFT: S. H. deJONG, U. of B. C.; BERT MASON, JR., Oak Grove, Oregon, and MYRON SAVAGE, Rayonier, Hoquiam, Wash.

Photogrammetrists Hold Annual Session

MEETING IN PORTLAND, Oregon, on Dec. 6, the American Society of Photogrammetry, Columbia River Section, devoted a day's discussion to new trends in timber volume estimation, planimetric mapping and grade cruising. President Spencer B. Gross, Portland, Ore., presided over the sessions, with Bert Mason, Jr., Oak Grove, Ore., as program chairman.

Professor J. R. Dilworth, School of Forestry, Oregon State College, Corvallis, Ore., discussed timber volume estimation directly from aerial photos. The system depends on plotting volumes from a crown diameter estimate. A check with a ground cruise showed accuracy to be within about 3.2 percent. It is a valuable system for extensive cruising.

H. G. Chickering, H. G. Chickering & Associates, Eugene, Ore., described a method of preparing planimetric maps from aerial photos, as carried on in Lane County, Ore. A block of 730,000 acres was mapped, about half of it forested. The slotted template system was used to control the area between 8 or 10 triangulation stations.

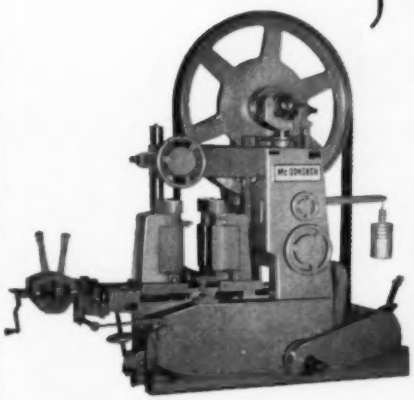
Mapping the Snake River canyon between Oregon and Idaho was described by E. W. Fehr, Jr., Aerial Mapping Co. of Idaho, Boise. The maps were helpful in obtaining engineering data otherwise unobtainable, in an area hard to reach by ground methods. The gorge is 8000 feet deep in one spot.

California's State Highway Dept. has found aerial photos very useful in determining highway locations, said Rex Fulton. Large 4x8 foot mosaic are prepared. The pictures are used as photos; no maps are made. They save 75 percent of the cost of surveys.

BASIC PRINCIPLES for sampling techniques in forest inventories were outlined by Myron F. Savage, Rayonier, Inc., Hoquiam, Wash. He discussed objectives, methods of sampling, methods of recording data and statistical analysis of the sample. This

(Continued on page 133)

McDONOUGH } **the modern resaw, designed to let you beat today's competition**

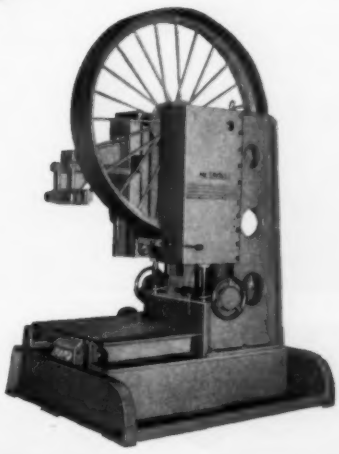


Yes, and beat tomorrow's competition, too, because the advanced design and rugged strength built into this NEW McDonough 54" Vertical Band Resaw assures you years of high production of accurately resawn lumber.

Many of the design improvements are obvious but many more engineering improvements that mean greater accuracy, more production and longer life are described in Bulletin #54-2. Write for your copy today . . . see why this is today's most advanced Vertical Band Resaw.

. . . and for the best in Band Mills choose McDonough. This 72" heavy duty Band Mill is typical of the continuing advances in design and engineering being made by McDonough . . . advances that mean more production, more accuracy, MORE PROFITS to keep you on top the competitive heap.

This mill features BIG capacity—slab and saw logs up to 60" dia., center split logs up to 45" dia., split cants up to 36"x36", has 36" fall down space—plus built-in strength and accuracy described in detail in Bulletin M72-2. Write for your copy TODAY or ask your McDonough dealer.



Genuine McDonough Drop Forged Steel Dogs and Non-Defacing Carriage Dogs.

McDONOUGH
MANUFACTURING CO.
1502 GALLOWAY
EAU CLAIRE, WISCONSIN

World's Largest Producer of Band Resaws

COMPLETED PSI ROOFING framing, before endwalls and sidewalls have been placed, is 60' span, supported on continuous lintel beams; columns every 24'. Warehouse cost: $2.00 sq. foot.

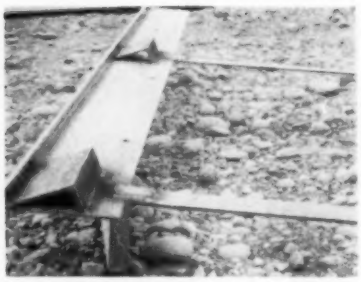
Roof Truss Saves Labor

and combines plywood and steel in prefabricated units for buildings

A PSI, ROOF TRUSS DESIGNED by Roy A. Gould, Diamond Lumber Co. and marketed by a company division, Plywood Structures, Inc., Portland, Ore., is available for commercial building construction. It combines long-length plywood with steel to form long spans. Several large buildings in the Northwest have been built using this new method of construction.

The truss comes to the site with all lumber and plywood precision cut to detail and all steel and hardwood fabricated to pattern. It is usually sold as a packaged building f.o.b. cars. Site assembly before erection can be handled by carpenters and helpers. Erection is usually done with mobile cranes. This effects an economy in attaching the roof sheathing to the trusses before erection.

Because 13/16" exterior-water-proof grade plywood is use in one continuous sheet from heel to heel of truss roofing can be done cheaply by giving the joints one coat of mastic. This is followed by laying down a ribbon of fibre-glass, followed by another coat of mastic. The entire surface is then given one mopped on coat of roofing compound. This type of roof can be made to last indefinitely.



STEEL PROVIDES tension members for lower chord and thrust bearing plate for top plate.

STANDARD BUILDINGS are to be available in 32', 40', 50', 60', and 80' spans. Longer spans may be had on special order, from the production plant at Tillamook, Ore.

Only small dimension material is required. The continuous scarfed plywood upper chord functions both as truss upper chord and roof sheathing. The plywood roof decking provides diaphragmatic bracing for the entire building. Steel is used in tension and wood in compression.

All nailing is done with galvanized nails, and all bolts are galvanized.

Extending the use of plywood to the exterior walls, provides further bracing through stressed-skin principle which when coupled with the plywood diaphragm on the roof gives the strongest possible construction at the lowest cost.

ERECTION OF 8 foot unit of roof structure. Trusses are swung into place by the crane, then seated, and lines are slacked away and tongs removed. Rigging is patterned after the logging tongs that are used in the woods and have proven to be very practical and speedy in erection of PSI roof truss building.

ASSEMBLY OF ROOF units in segments, here 8' wide, 60' long. Plywood is nailed to 2x8 plate at 6" c/c, bolted down with ½" bolts at panel points extending through lower chord.

Small Mill Boosts Cut

(Continued from page 75)

trimmerman. An extra man on the pond and another on the green chain raise the total of added workers to six.

The "Tu-Way" carriage, furnished by Mill Equipment, Inc., is equipped with electric preset setworks, operated by the sawyer; air dogs and air taper knees; air-operated cant flippers; Timken roller bearings (including on set shaft). The McDonough band is a new heavy-duty machine built especially for western mills.

One outstanding advantage of an operation such as Walton has inaugurated is that every stick of usable lumber will be put to its highest economic use in the company's extensive kiln drying and remanufacturing department.

West Coast Lumber May Soon Be Grade-Named

WITHIN the next 60 days West Coast lumber may be graded under a new rule—Rule #15, according to H. V. Simpson, executive vice-pres., West Coast Lumbermen's Assoc., Portland, Ore. The rules apply to Douglas fir, west coast hemlock, western red cedar and Sitka spruce.

The actual change in the grades themselves is minor. The principal—and basic—change is a change from grade **numbers** to grade **names:**

- **No. 1 becomes CONSTRUCTION.**
- **No. 2 becomes STANDARD.**
- **No. 3 becomes UTILITY.**
- **No. 4 becomes ECONOMY.**

Simpson states that it is the numbers which cause the trouble.

"The demand for grade-stamping is steadily increasing. It's coming from retail dealers, government agencies, builders and many others. A number of areas have already refused to accept anything but grade-stamped lumber. Several others are considering a similar prohibition. This trend has the endorsement of West Coast lumber manufacturers. We merely feel that a useful product should not be penalized because it is identified by a number."

Thirty years ago the National Lumber Manufacturers Association adopted a resolution supporting universal grade-stamping. The Southern Pine Assoc. and the West Coast Lumbermen's Assoc. have gone similarly on record. But every effort during the past thirty years to substantially extend the grade-stamping of lumber has failed because the public would not accept #2 or #3 or #4, says Simpson.

The change to names applies only to the present #1, #2, #3 and #4 grades of boards and 2" and thicker dimension, planks and timbers. SELECT MERCHANTABLE remains the top grade in boards, and SELECT STRUCTURAL the top grade in dimension.

The lettering system—"B&Btr.," "C" and "D"—remains in effect on finish, flooring, casing and other clear items. The only change in this category is that "C&Btr." becomes the top grade of flat grain clears. This, of course, is merely in line with current practice. Vertical grain clears continue to be designated "B&Btr.," "C" and "D."

The name of the Bureau has been changed to West Coast Lumber Inspection Bureau—which is somewhat less cumbersome than West Coast Bureau of Lumber Grades and Inspection.

The format of Rule #15 has been changed. Key paragraphs should be easier to find and easier to remember.

The fiber stress value of the present 1450f grade (#1) has been increased to 1500f, and the fiber stress value of the 1100f grade (#2) has been increased to 1200f. In both cases the quality of the product has been improved.

Old rules permitted a full-length skip in #2 dimension—which probably caused more difficulty than any other single provision in the rules. FHA, for instance, regarded a full-length skip an intentional scant sawing. Rule #15 provides that STANDARD (the old #2) may have hit-and-miss skips on the edge, but may not be skipped full length.

STANDARD Joists and Planks grade (2x6 and wider) becomes a little better all around. Fiber stress value has been upped from 1100f to 1200f. A medium grain requirement has been included.

Thickness of boards and finish items has been reduced from 25/32" to ¾". Fifty percent of such material is ¾" at the present time. There is more value in 25/32" material than is needed. Those who wish to buy 25/32" boards may still buy them and have them grade-stamped.

Rule #15 will have a standard provision on material 6" in width—5½" instead of 5⅝" as at present. This

(Continued on page 139)

LODGE & SHIPLEY is producing Columbia Hydraulic Presses for the woodworking industries that are equal or superior to any other. Their rigid design, trouble-free hydraulic system and honest ratings assure dependable performance on any press job.

In the production of plywood, veneer, hardboard and other laminated products, there is no room for an operation that might fail. The many Columbia features guarantee more production, higher quality and greater return on your investment.

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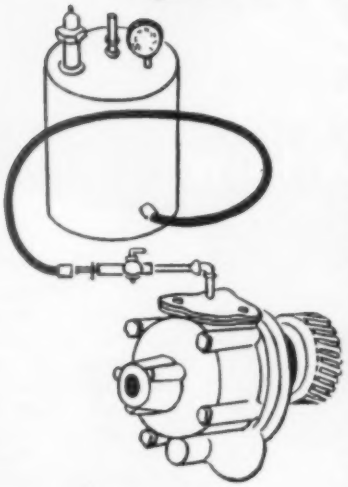
That part your truck needs may be one in a million...but it's right here within arm's reach of Roberts parts specialists and they'll get it to you *fast!* Parts are rushed to you from the Northwest's largest stock of truck and industrial parts...*literally millions* of genuine replacement parts to match the precision of the originals in your truck. No *time* wasted either, waiting for replacement parts, when your truck's in Roberts' shop. Saves on down-time ... and costs ... on a simple repair or a complete rebuild.



Here's another Roberts labor-saver that gets the job done faster, which means a saving to you! With this machine, a water pump or oil pump can be tested after overhaul, right on the bench, without installing on the motor ... tests at twice the operating pressure which insures plenty of margin for safety.

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Foresters Review Progress

(Continued from page 81)

ers said, on the theory that the common carriers could provide the communications service for industrial firms.

BANKING CREDIT HAS been made available to the small acreage timber owner so he does not have to sacrifice his woodland to meet increasing taxes and living costs, declared W. W. Woods, First National Bank, Montesano, Wash. Woods referred to Public Law 285 made effective in 1953. It amends Sect. 24 of the Federal Reserve Act and permits national banks to make real estate loans secured by first liens upon forest tracts which are properly managed in all respects.

The Columbia River Basin Compact, embracing 259,000 square miles, was described by H. Calvert Anderson, Columbia Interstate Compact Commission, Spokane, Wash.

"BRING THE FIFTH World Forestry Congress to the Northwest", was suggested by Corydon Wawner, St. Paul & Tacoma Lbr. Co., Tacoma, Wash. Wagner also recounted his experiences at the 4th World Congress held at Dehra Dun, India, in 1954.

Application of power saws to fire line construction and use of industrial television for forest fire detection were described by Edward E. Bailey, California Div. of Forestry, Sacramento. He was winner of the Conference's 1950 essay contest, conducted among western forestry schools.

The television test showed that an 8-inch focal length lens was limited to about 10 miles in picking up small smokes and detail. It appears that a multiple lens installation is required: a 6 to 8-inch lens for general scanning and a 16 to 20-inch lens for close scrutiny of specific areas. Rate of scanning and desirable filters to use are problems which require solution.

Competing Demands for Uses

Conflicts between various uses of forest lands were debated by a panel of industry and state men, joining with wildlife, recreation and sportsmen groups. Moderator was William D. Welsh, Crown Zellerbach Corp., San Francisco, Calif.

Use of forest land for recreation is breaking out like a plague, declared William Reavely, National Wildlife Federation, Monte Vista, Colo. The new trend on the part of private owners is to let people on their lands, with controls. The next step is to educate the companies which are still holdouts on this policy.

Multiple use values must assume their relative importance according to local economies, declared Edwin F. Heacox, Weyerhaeuser Timber Co., Tacoma, Wash. "In the Rocky Mt. region, water conservation is of first importance. In the Pacific Northwest,

see how you can produce more eased-edge lumber at less cost with DISSTON PHILBRICK® CUTTER HEADS and KNIVES

36 million feet of stock from one set of knives!

Sounds unbelievable, doesn't it? Yet, that's the production record of one set of Disston knives—thanks to the superior edge-holding qualities of Disston steel. Disston knife design allows free discharge of chips—eliminates over-loading and clogging—makes possible maximum feeds.

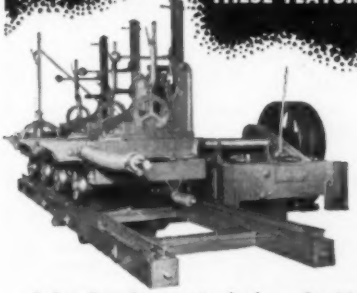
Why not capitalize on the tremendous demand for eased-edge lumber by using low-cost, high-production Disston Philbrick Generated Type cutter heads and Disston knives in your plant. Order them from your Disston distributor, or write:

Henry DISSTON DIVISION
H. K. Porter Company, Inc.
193 TACONY, PHILADELPHIA 35, PA.
Seattle, Wash.; Chicago, Ill.; Toronto, Ont.

HKP DISSTON

Long-Life Disston Knives Cut Costs
Notice the new and worn-out knives above and how the latter retains its pattern and wears right down to the end.

Enterprise SAWMILLS
DO IT *FASTER* AT *LESS COST* BECAUSE OF THESE *FEATURES*



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- Machine Cut Racks and Pinions
- Improved Giant Carriage Feed
- Seasoned Douglass Fir Timbers
- Heavy Duty Cable Drive

Judge them by any standard . . . Precision, dependability, economy. Enterprise Saw Mills are truly in a class by themselves. Only Enterprise offers you the many important advantages of improved Saw Mill design. The engineering advancements found only in Enterprise Saw Mills assure greater smoothness of operation, longer life and increased efficiency.

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We are prepared to supply your requirements right through Winter and Spring.

Our Log Inventories at the Mills are ample for steady production.

Lumber inventories constantly maintained at a point to give constant loading.

OUR SPECIALTY - MIXED CARS TO THE TRADE

The Ralph L. SMITH Lumber Company

MILLS at
ANDERSON, RED BLUFF,
CASTELLA & WILDWOOD,
CALIFORNIA

WPA Western Pine Association

Sales Office at Anderson, California

it's timber production to maintain our local payrolls. Lands then, should be managed to give these respective demands their proper attention," stated Heacox. These other demands are for recreation, hunting and fishing and water production.

AMERICA'S GREAT HERITAGE of scenic beauty can be enjoyed and yet preserved, intact and unspoiled, believed Virlis L. Fischer, Sierra Club, Portland, Ore. He sounded a strong plea for support of national parks and other lands reserved from commercial use.

Tree farmers generally are receptive to a mutually cooperative approach by individuals and organizations that represent sportsmen, recreationists, stockmen and others, said Waller H. Reed, Collins Pine Co., Chester, Calif.

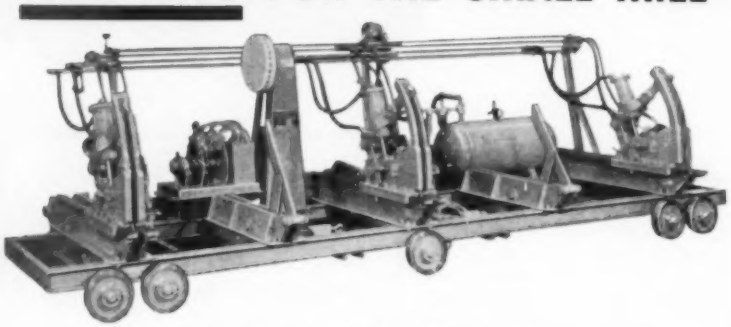
REED ALSO URGED that large acreages of public lands at higher elevations be developed for fuller recreational use. He favored direct appropriations for financing such development, instead of diverting proceeds of timber sales.

"If you have a sincere and understanding interest in the problems and operations of a landower and become a cooperator with him instead of a nuisance, you'll receive from him the same interest and cooperation." This policy was suggested by J. W. Penfold, Izaak Walton League of America, Denver, Colo. Public pressure on forest acres to produce recreation as well as timber and water is creating many new problems which can be solved only by better understanding between the groups concerned, said Penfold. The private company has a community responsibility as much as the hunter has a personal responsibility in his proper use of private lands.

That sportsmen are "big business" was proved by statistics given by John A. Biggs, Dept. of Game, Seattle, Wash. Throughout the U. S. some 14 million people regularly hunt. They harvest annually more than one million deer and more than 15 million waterfowl, plus millions of other types of game. More than 17 million people fish each year.

Featured speaker at the annual banquet was Gordon Marckworth, dean, College of Forestry, Univ. of Wash., Seattle. He discussed historical development of a code of ethics by the Society of American Foresters.

MORE
PROFITS FOR THE SMALL MILL



Peters Chain Block Carriage

- NO DAMAGE TO LOGS
- FINGER TIP CONTROL
- MORE LUMBER PER MAN
- SPLIT SECOND PERFORMANCE

Peters Chain Block Carriage is engineered especially for your needs in small mill operation. It will help you produce more lumber per man-hour . . . lumber that consistently grades out higher because there is less mismanufacture, less damage to logs from Peters dogs and flippers. Peters years of experience in sawmill engineering are your assurance of top performance, accurately cut lumber and low maintenance costs.

- Air or Hydraulic Operated
- 36" to 84" Openings
- 2 to 5 Blocks
- Alloy Steel Wheels
- Brass Bearing Knee Plates
- Steel Headblocks and Knees
- Timken Tapered Roller Bearings

Write for Catalog CB 14

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Beckman Lumber Service
Los Angeles, California

better drying means greater profits!

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It costs no more to buy the best. Write, wire or phone our nearest factory for complete facts, specifications and prices on lumber kilns, veneer dryers or cost-reducing lumber handling equipment.

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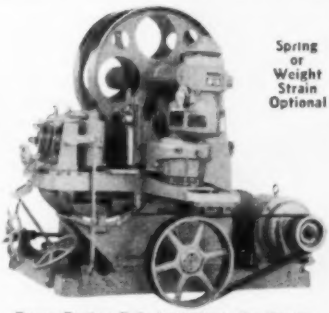
First Again

Tandem Twin Resaw With Front Rig Tilting

A proven, field tested ALL purpose resaw—for slabbing (Single or Double); center sawing; bevel sawing; ripping and re-sawing.



Spring or Weight Strain Optional

Turner Tandem Twin With Front Rig Tilting

CHECK AND COMPARE THESE FEATURES

- √100% Anti-Friction Bearing Throughout
- √All Cast Precision Built
- √Slab Sawing and Self-Centering, Instant Change
- √Three Types of Set Works—Screw Set—Quick-Set or Pre-Set
- √Any Feed Rate Range Available Infinite—Instantaneous

International Sales and Service

TURNER MACHINERY CO.

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THE HAMMOND AUTOMATED MILL

THE SEL-SET Predetermining Remote Control Set Works combined with a Mater Riderless carriage has made possible a low cost salvage operation for Hammond at Big Lagoon, California. A good percentage of clear vertical grain redwood is obtained from sawing all types of salvage material with the sawyer controlling the entire headrig operation. Hammond is one of the many enthusiastic operators using Sel-Set automatic carriage controls.

FOREST PRODUCTS MACHINERY, INC.

FORMERLY SEL-SET MACHINERY CORP.

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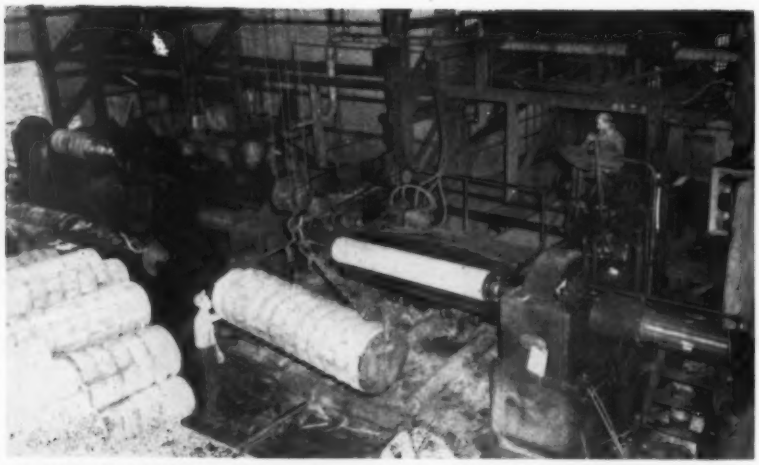


AT NATIONAL PLYWOOD CO., near Beaver, Wash., changing blocks on Coe lathe is simplified with hydraulic chucking system. Peelers are moved rapidly by overhead traveling crane. Note electric-operated barker in L. background.

Plant Begins Production

of hemlock sheathing plywood, as a supplement to its veneer output

AMERICAN-MARIETTA adhesives are applied by gluer (R. rear) and veneer sandwiched on rollers (R. fore.) Batch of 43" high panels can be pressed in hydraulic cold press at L. Batch moves into press on transfer system: rolls holding batch drop by pantograph, roll into press.

EXTERIOR VIEW of Nat. Ply. on Lake Pleasant, which provides excellent log dump, storage.

HOW A NEW PLYWOOD company is converting from green veneer to an eventual range of grades of plywood panels is the story of the National Plywood Co. of Washington, Inc.

The plant, located west of the Olympic National Park near Beaver, on the Olympic peninsula, is adjacent to the Forks Burn area. Many logs salvaged from the burn have been utilized at the new plant.

The firm is a coop, organized by local citizens four years ago. Total workers now number around 140.

The plant is now producing at the rate of 36,000,000 sq. ft. (3/8" basis) per year. Currently the major product is hemlock sheathing. Veneer in excess of National's own requirements finds a ready market in other plywood plants in the Northwest.

The plant peeled the first veneer in March 1954. For 15 months green and dry veneer was sold to other plants. In June 1955, they began production of sheathing. Last summer National Plywood joined the Douglas Fir Plywood Association. Current production is largely sheathing and interior sanded panels graded under Commercial Standards CS-122 and CS-45.

National Plywood is peeling approximately 90% western hemlock, 10% Douglas fir and Sitka spruce. Finished hemlock plywood weighs about the same as fir. This product has received favorable comment from users. National Ply has found fewer defects in the veneer, smaller knotholes and lack of pitch to be some of the characteristics of hemlock panels. Some 100% spruce sheathing panels are manufactured.

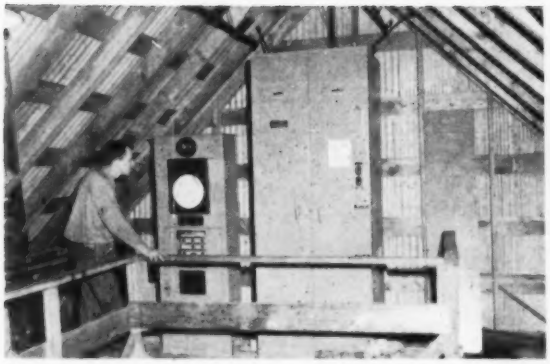
FUTURE PLANS INCLUDE installation of a hot press, use of waterproof glues and eventually specialty products, a course of action which closely parallels that of the overall softwood plywood industry.

An outstanding feature of this plant is its fire protection system. Three separate water systems supplement the Sentry Automatic sprinklers. A steam pump is ready to go during boiler operation. Next there is an automatically controlled electric pump, and finally, if both steam and electric power are cut off, there is a diesel pump, also with automatic starting and control.

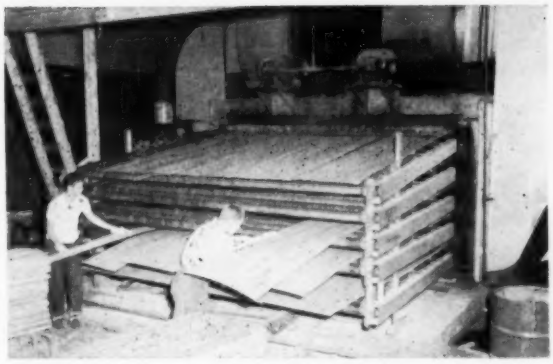
There is always a good prime for pumps and a virtually endless supply of water, because the bottom of the pumphouse is below the lowest level of adjacent Lake Pleasant.

Electricity is supplied, in case of failure of the regularly used public power, by a Caterpillar 375 KVA motor generator set, sufficient to run the entire mill.

A "sign of the times" is the company's use of hemlock for peeler stock. Few industry plants use as high a percentage of hemlock in their production as does National Ply. Hemlock has been found very satis-



FIRE PROTECTION is emphasized; in addition to fully sprinklered plant, three automatically-controlled pumps are employed.



VENEER IS FED into this 15-section steam-fired Moore Dry Kiln Co. dryer. Current production is largely sheathing and interior.

factory for cores and faces in sheathing. Douglas fir and Sitka spruce are also peeled.

RECENTLY COMPLETED is a new $50,000 chipping plant. It has the first Sumner 66" flat cutting veneer chipper to be installed anywhere. A new Cummins-powered Mack truck and 10-unit chip trailer are now in regular service between Beaver and Port Angeles, where a paper mill buys the chips. An efficient chip hopper setup allows chips of various species to be directed to a choice of bins.

Chip size, originally ⅝", has now been lengthened to ¾" at request of paper company buying their chips, in order to provide longer fibers for stronger paper. The mill is producing approximately 20 units of chips per day on a 2-shifts green-end operation. The paper company reports satisfaction with chips from this new source; percentage of fine and coarse chips has been well within tolerance.

There is no common carrier railroad in the vicinity. Consequently the

(Continued on Page 133)

Principal Equipment

Cold press: Western Hydraulic; a single batch runs 43" in thickness.
Lathe: steam driven, Coe 110".
Barker: Prentice, with an electric drive with air controls.
Clippers: on two decks, five trays. Above is a new Victor automatic clipper, on floor level is a Coe automatic clipper.
Dryer: Moore 14 section, steam fired.
Adhesives: American-Marietta and Monsanto.
Glue spreader: Peninsula.
Patcher: Raimann.
Jointer: Diehl.
Taper: Dennis.
Skinner saw: Challoner.
Cut-off saw: Western.
Pond saw: Titan, with a five-ft. blade, powered by a Sterling electric motor.
Veneer hog: Lamb—Grays Harbor powered by a Fairbanks-Morse 440 v. 50 hp electric motor.
Chipper: Sumner, 66".
Panel Trim and fishtail trim hog: Western veneer hog.

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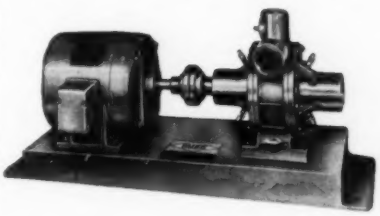
Increase Production with



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THE Lumberman

Production Equipment Preview

"PEP" IS SHORT for "Production Equipment Preview." You are invited to use "Pep." There is no charge or obligation. Circle corresponding numbers on the "Pep" card and mail.

Force Feed Lube on New Unit

• This 12-page bulletin showing illustrations and specifications on the Unit Challenger Model 510 is now available. This bulletin (C-800) describes in detail such features as hydraulic actuated clutch control, full floating trunion mounted taper drums, self-aligning hook shoes and force feed lubrication, plus many other features incorporated in this new Model 510 ⅜ yard machine. Circle No. 2.

★ ★ ★

Log Handling—Texas Style

40,000 LBS. OF IRONWOOD logs are easily handled by this new LeTourneau "Electric Log Stacker," manufactured by R. G. LeTourneau Inc., Longview, Texas. The stacker can pick up a complete truckload of logs with one bite. The first machine has gone into service on Oregon. Each wheel is powered by a separate high-torque electric motor. There is a single-log model and one multi-log model. For an illustrated "spec" sheet on this remarkable machine, circle No. 1.

★ ★ ★

Valuable Information on Fan Performance Told in Catalog

• A new two-color illustrated four-page catalog (Bulletin No. 6514) describing the new Ventura Fans for industrial heavy-duty exhaust applications has been printed by American Blower Corp., Detroit.

Relative quietness levels are explained in the new catalog in terms of comparing quietness ratings (A, B, C and D) with the type of space each represents.

The catalog outlines the construction features of the new fans and explains their significance. Performance data such as delivery ratings at various static pressures, fan speed, motor horsepower, quietness rating and maximum net weight are given. Circle No. 10.

High Speed Automatic Glue Applicator Has Rigid Control

• A new automatic production glue applicator with electro-magnetic controls has been placed on the market by Saranac Machine Co. First developed as a component to apply rigidly controlled lines of glue between corrugated fibreboard and wood cleats on a Saranac container-making machine, the applicator is now available as a separate item.

Featuring a new type of rotary valve, the unit automatically meters and applies glue, in precisely controlled thin strips, onto parts or materials which pass beneath it on a conveyor.

Applicators are adjustable horizontally across work, for desired location of glue strips, and longitudinally, for starting or stopping glue flow where desired. Volume of glue flow is also adjustable to insure proper, economical application.

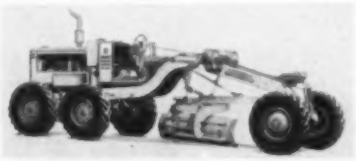
Any number of applicators can be arranged side by side in batteries. Industrial possibilities include use in applying lines of glue to wood, fibre, paper and other materials. Bulletin 3228-17 will be sent; circle No. 4.

★ ★ ★

New Adams Graders Offer Wider Choice of Engines

• LeTourneau-Westinghouse announces a number of changes in engines and horsepower ratings in their line of Adams motor graders. These changes are described in new literature.

The No. 660, formerly powered by Cummins 140 h.p. diesel engine, is



Adams Grader "600" now powered by 150 h.p.

now powered by Cummins or GM 150 h.p. engine. The No. 550, formerly powered by 115 h.p. International engine, is now equipped with 123 h.p. GM or Cummins engine.

The No. 440, formerly powered by 100 h.p. International engine, is now offered with 100 h.p. Cummins or 104 h.p. GM engine. The No. 330 may be had with International 75 h.p. engine or 80 h.p. Cummins or GM engine.

New literature on these graders may be had by circling No. 5.

• It's lightweight, easily portable. That's the new two wheel dolly the PD-100 developed by Gen-A-Matic Corp. for wheeling its line of Gen-A-Matic portable electric generating plants around. The heavy duty industrial type wheels on the PD-100 are large size for easy rollability and have semi-pneumatic tires and anti-friction bearings. There is provision on the stand for carrying 100 ft. of cord. For full information circle No. 3.

★ ★ ★

How Could You Use This New Communications System?

• Successful businessmen know the value of efficient communications between personnel in plants and offices. Already the lumber industry has begun to use one of the most modern and foolproof methods of communication, that of sending longhand messages electronically.

Sound odd? Probably does, at first, but one lumber organization expects to save $10,000 per year in transmission of a heavy traffic of sales orders and delivery instructions via cable. The company is using a "TelAutograph Telescriber System." This system is an electronic communication instrument which instantaneously transmits messages written in the sender's own handwriting to remotely located stations in various parts of a plant or facility. Circle No. 8.

Memorandum

From: W.E. Crosby **Editor of THE LUMBERMAN**

To: **Loggers, Lumbermen, Plywood and Hardboard Operators, Shop Foremen, Master Mechanics**

Re: **THE LUMBERMAN'S Production Equipment Preview Section**

If you haven't taken advantage of this "Pep" section, you are missing a bet. These "Pep" pages bring you news of the latest developments by forest industries suppliers and tell how to obtain further details, interesting and educational brochures, circulars, "spec sheets" and even expensive catalogs. Look "Pep" over carefully and then fill out and send the free mailing card.

ENGINEERING, DESIGN and performance features of the new Allis-Chalmers HD-21 Diesel-powered crawler tractor are described in the new 16-page two-color catalog (MS-457) now available. For your copy circle No. 11.

GOING TO BUILD A SAWMILL, Machine Shop, Truck Shop or smaller building? Armco Steel Corp. describes its complete line of steel buildings, large and small, in a booklet titled "Armco Steel Buildings" Series S. Circle No. 12.

ENGINEERED FOR WOODS OPERATIONS—that's the story which the users report about the Bucyrus-Erie excavators. One of the reasons for loggers liking the Bucyrus-Erie machine is the simple but effective arrangement of deck machinery. Machinery is compactly arranged, carefully placed to keep counterweight requirements low. The full story about Bucyrus-Erie log loaders and excavators can be had by circling No. 13.

SHORT STROKE DESIGN has been developed in the Homelite chain saw, following the trend in today's engine design. "Less piston travel means less wear, longer engine life, greater gas savings, more usable power." Homelite explains that the new Model 5-20 develops one full h.p. for every 4 lbs. of weight. For more details circle No. 14.

NEW PLUG-IN CHASSIS for 2-way radio. Developed by General Electric protects against obsolescence and affords faster, easier and cheaper maintenance. Rapid and complete interchangeability is provided by this rack construction and true plug-in chassis. Plug-in design permits changes in frequency, power type of reception quickly at minimum cost. For further details circle No. 15.

FLEXIDYNE—the dry fluid drive (Dodge Manufacturing Co.)—which was first announced in April, has created a great deal of interest in the forest industries. Information on this new drive is contained in a 12-page bulletin now ready for distribution. It contains color drawings of Flexidyne, cross section engineering drawings, plus selection charts. For your copy circle No. 16.

SIGNODE STEEL Strapping Company offers a Carloading Check Chart for Anchored Loads. It is designed for shipping and loading personnel. It fulfills a long felt need, by providing a clear, simple illustrated chart on carloading procedures for wall anchored loads. Circle No. 17.

INDUSTRIAL V-8 ENGINE Bulletin. A new 8-page bulletin describing Le Roi's industrial H540 and H844 V-8 engines has been published by the Le Roi Division of Westinghouse Air Brake Company. The 3-color bulletin uses charts, drawings, and diagrams to illustrate the advance design, performance and economy of these two engines, which operate on gasoline, natural gas or LP gas. One is rated at 190 h.p., the other at 285 h.p. For your copy circle No. 18.

PAUL BUNYAN'S HELPER—A four-page brochure, describing FWD's new Blue Ox rubber-tired skidder for moving logs and pulpwood out of the woods, now is available. The brochure shows the Blue Ox Skidder in action and describes its four-wheel-drive operation in cutting skidding costs up to 50%. Complete specifications and special features are included. Circle No. 19.

McDONOUGH OFFERS MODERN DESIGN. A report issued by the McDonough Manufacturing Co., Eau Claire, Wisconsin, gives complete details on the new design of the McDonough 54-in. vertical band resaw. The new design reflects many engineering advances, including top wheel casting of high tensile iron and a massive box type saw guide arm. For details circle No. 20.

HOW TO MODERNIZE INDUSTRIAL CRANES with new controls is the subject of a new, illustrated pamphlet (CE-400) just released by Ederer Engineering Company. The brochure points out how industrial

(over)

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cranes could perform with greater efficiency and economy by the installation of magnetic crane controls. These controls permit greater flexibility in selecting load speeds. For details on Ederer crane controls circle No. 21.

TAPEBINDER, A NEW FILAMENT reinforce, pressure sensitive tape, has been added to the line of A. J. Gerrard & Company. The new tape, which combines high tensile strength and strong adhesion qualities, is available in ½", ¾" and 1" rolls individually boxed in bulk. Glass filaments impregnated in a rubber base primer give the tape its usual strength. For more information circle No. 22.

OWNERS AND OPERATORS of Oliver and Terratrac crawler tractors will find complete specifications on Carco winches specially adapted for their tractors in two new specification sheets published recently by Pacific Car and Foundry Co. These two-color specification sheets feature the Carco model E-24 winch. It features a larger diameter cable drum, lighter weight, a closed semi-automatic brake and six operational line speeds through optional gear sets. For details circle No. 23.

A NEW AUTOMATIC DROP SAW TRIMMER is announced by the Wheland Company. A special bulletin is now available from the manufacturer describing fully this full unit, which is equipped with ball and roller bearings. It can be furnished either mechanically or air operated. For the special bulletin on the Wheland automatic drop saw trimmer, circle No. 24.

ATTENTION MILLMEN—United States Steel's Gerrard Steel Strapping Division offers a brochure illustrating their models TA and TE steel strapping machines. This equipment is particularly useful in strapping light packages weighing up to 75 lbs. For a free copy of this illustrated folder, circle No. 25.

USE OF PAPER FOR WRAPPING lumber shipments is being advanced by a new company at Vancouver, Wash.—Portco Corporation. This firm designs and fabricates a line of paper bags, cover and liners for industrial products. For the lumber and plywood field, Portco is now producing multi-walled covers and freight car liners. Circle No. 26.

IF YOU WANT TO LEARN about the dissipation and generation of heat in connection with hydraulic circuits, you'll get a lot of value out of a new 8-page booklet, titled "Heat," just released by the Oilgear Company. The pamphlet features useful information on heat transfer area, oil circulation rate, auxiliary pumps, pipe and valves. Men responsible for engineering fluid power installations will benefit from this information. For your copy circle No. 27.

MAJOR HOSE LINE ADVANCEMENT—Aeroquip Corporation reports successful introduction of the company's new "666" hose, featuring a (Teflon) inner tube and a specially designed detachable, reusable fitting. The exceptional characteristics of the "666" hose assembly includes: an ability to withstand extreme temperatures, an imperviousness to acids, a new "ageless" detachable, reusable fitting, essential to the maximum usefulness of the hose assembly; and its light weight and small size. For a bulletin on this new hose, circle No. 28.

WIRE ROPE SLINGS DURA-GRIP made by CF&I are featured in a new bulletin prepared by the Wickwire Spencer Steel Division. Special Duragrip splice construction develops the full strength of the rope from which the slings are made, and guarantees long sling life and extra safety. Duragrip slings feature the advantages of a hand splice plus the safe handling of a smooth steel sleeve. For a bulletin circle No. 29.

HERE'S NEWS OF A PORTABLE sawmill especially designed for lumbermen in the west. It is the Bachmobile. The information released by the manufacturer states that the Bachmobile is rubber tired and is a complete one-piece sawmill. On one single frame are assembled headrig, overhead carriage, edger, power unit, conveyor and blower. It is reported that the Bachmobile can cut 20,000 board feet per shift with only six men. For information circle No. 30.

STUDIES OF HANDLING TECHNIQUES in ten industries, illustrations of unusual uses of fork trucks and descriptions of new equipment, are contained in the latest issue of "Material Handling News," published by Clark Equipment Company. More than 50 photographs illustrate case histories of cost-saving methods used to handle all types of products including lumber. For your copy circle No. 31.

A RUGGED "LUBE" UNIT. Luber-finer, Inc., Los Angeles, announces the addition of the new Luber-finer Model 363-C, designed for mobile, stationary and marine engines with up to 4-gallon crankcase capacity. This Luber-finer Industrial Models for Diesel, Gasoline and Natural Gas Engines with crankcase capacities of from 3 gallons to 8 gallons. For further details, please circle No. 32.

A HANDY BOOKLET ON SELECTING grinding wheels has been printed by Norton Company. The booklet contains tables and descriptive material that would be useful in filing rooms and for plant purchasing agents. The booklet was printed by Norton because of the many new alloy steels which are now being used and which require special grinding methods. For your copy of this Norton Booklet just circle No. 33.

ALLIS-CHALMERS RELEASES constant speed "Texrope" drive selection booklet. This 74-page booklet carries handy multi-color tables for

(Continued on page 131)

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THE LUMBERMAN'S "Pep" Section

Production Equipment Preview

FOR FURTHER INFORMATION on any product or service for the forest industries advertised in THE LUMBERMAN, merely write the name of the company and the product right on the "Pep" mailing card in the space provided.

Cary Lift Designed Especially For Soft or Muddy Areas

• The Pettibone Mulliken Cary Lift with its 14,000 pound capacity is specifically designed for operation in unpaved areas, such as mill yards. It's described in a new 36-page brochure giving case studies and on-the-job photos.

Its maximum reach is 16 ft. 2 in. Cary Lift (see cut) performs such functions as loading and unloading high-sided railroad cars, trucks and barges, and decking and transporting logs, pulpwood and lumber.

Featured in this new booklet is the standard fork lift Cary Lift, the sling Cary Lift used widely in pulpwood operations, the swivel clam Cary Lift and Cary Lift equipped with snow bucket. Circle No. 6.

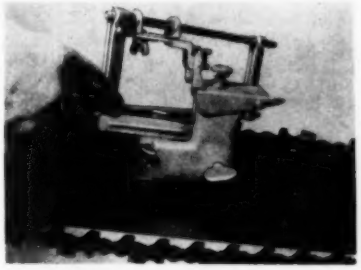
Marion 43-M Now Tire Mounted

• Just recently Marion Power Shovel Co. took the wraps off the Model 43-MR. It's a 35-ton rubber-mounted unit with high-performance characteristics for many different types of crane work.

A few of the features are:

- Dual front axles, for proper weight distribution
- Power-removable counterweight, for easy preparation of the machine for highway travel
- 180-inch wheelbase—inches shorter than many other truck cranes—for greater maneuverability in traffic and on the job
- The full power, operational flexibility and positive air control that proved popular in the crawler-mounted 43-M
- A machine will carry its maximum rated load, with outriggers, at radius of 15 ft.

The 43-MR has been fully tested, both in the yard and on the job. It is already at work and is expected to attract wide interest in such applications as crane, clamshell, dragline and steel rigging service. Circle No. 9.



How to File Chain Saws Fast With Newly Developed Device

• The Skokum Co., Portland, Ore., announces the new "File-N-Joint," hand-operated automatic precision saw chain filing machine. The new device accurately files saw chains, lengthens the life of the chain saw, cuts operator fatigue. It weighs less than 1½ pounds and clamps on the cutter bar, thus avoiding any need to remove the chain for filing. Adjustments are easy and quick. The same setting both sharpens and joints exactly to chain saw manufacturers' specifications. Both sides can be filed without resetting.

For more details, circle No. 7.

(Continued from page 130)

quick and easy selection of constant speed "Texrope" V-belt drives. In addition to providing selection tables for A, B, C, D and E section "Texrope" belts, the handbook features valuable information on design features, basic drive principles and technical data on sheaves as well as helpful hints for economical, safe and dependable operation of V-belt drives. Copies of the booklet are free; just circle No. 34.

TWO NEW ENGINES, the D342 and D339, are announced in a recent broadside mailing-piece by Caterpillar Tractor Co. Included in the two-color publication is a full explanation of the machining and research going into the production of these latest additions to the company's line. A series of two-color pictures illustrate the great number of applications—ranging from marine to logging. Copies of this mailing-piece may be obtained by circle No. 35.

NEW FLEXIBLE MECHANICAL coupling catalog—Philadelphia Gear Works has prepared a new reference catalog on flexible gear-type mechanical couplings. This 12-page catalog describes the new Sphereflex line of curved root, spherical tooth couplings; and provides complete data on installation, service factors, proper selection, specifications and lubrication. For your copy circle No. 36.

FINISHED BORE ROLLER CHAIN sprockets that can be quickly installed without reworking are now being introduced by Morse Chain Company. Available for immediate delivery from warehouses or distributors, the new finished bore sprockets are offered in Type B single widths. They are made of high carbon steel, ready for hardening, and come in a wide range of popular sizes. For catalog sheets circle No. 37.

A NEW 56-PAGE ILLUSTRATED 3-color catalog (No. 5001A) describing the complete Vickers line of oil-hydraulic pumps, controls and accessories for general industrial application is now available. The new catalog includes engineering, design and application information relating to pumps, pressure controls, volume controls and directional controls. It also describes and illustrates each unit in detail. For your copy circle No. 38.

THE PRESIN COMPANY of Los Angeles has available a new type counting machine that may well have a place in the lumber or plywood industry. These automatic counters will have a range of 1 to 99,999 and can be preset in seconds. They will stop automatically when reaching a present number; and will start again on an external signal command resetting. For technical information on these counting devices, circle No. 39.

MANY NEW ATTACHMENTS—Owners and operators of "CAT" tractors and motor graders will be interested in new attachments for their equipment. A new eight-page booklet describes these attachments, including hydraulic steering boosters for motor graders, cast steel final drive cases, rolled steel crankcase guards and electric starting systems. For a copy circle No. 40.

FLEXIBLE COUPLINGS manufactured by the Thomas Flexible Coupling Co. are designed for extra tough jobs. Some of the advantages which they are reported to have include: no maintenance, no lubrication, no backlash, cannot create thrust, and permanent torsional characteristics. For more details circle No. 41.

$8.00; Western, $17.00.

SOCIETY OF AMERICAN FORESTERS, Northern California Section, met in San Francisco in December. Afternoon panel and some of the officers are shown (left to right): Back row: WILLIAM HENDRICKSON, Nevada Union High School; JAMES DENNY, Calif. Div. of Forestry; ROBERT E. DASMANN, USFS. Front row: HAL BOWMAN, Ralph L. Smith Lumber Co.; K. M. MACDONALD, Sacramento Box and Lumber Co., chairman; BURNETT H. PAYNE, USFS, program chairman; R. D. COSENS, Soper-Wheeler Lumber Co., secretary.

Society Meets In Northern California

• How well professional foresters are doing at getting modern forest practices applied in California was the theme of the 1955 annual meeting of the Northern California Section, Society of American Foresters held in San Francisco in December.

Some 300 men attended the sessions. K. M. Macdonald, Sacramento Box & Lumber Co., Woodleaf, section chairman, opened the meeting. Burnett H. Payne, U. S. Forest Service, was program chairman.

Sam H. Bryan, Calaveras Land & Timber Corp., West Point, representing the industrial forester, said that his objectives were to harvest the old growth, and leave the lands productive and protected against fire. Booklets are prepared for distribution to loggers to sell them on good forestry.

Representing the consulting forester was Myron S. Wall, Wall & Larson, Sacramento, who told the group that the consulting forester augments the work of the company forester, and acts in the capacity of advisor to the small operator who can't afford a full-time forester, in cruising, appraising, advice in taxation matters, legal problems, check scaling, contract scaling, logging engineering, and sawmill studies.

HENRY TROBITZ, Simpson Redwood Co., Klamath, spoke for the industrial forester. His company is initiating a new logging program wherein questionable trees left by the logging crew on the first cut, will be taken out in a second phase by a special crew of the land and timber management department. Layouts are made for 50 percent of the redwood trees. One man's sole job is to work with the choppers to save trees.

Hal Bowman, Ralph L. Smith Lumber Co., Anderson, forester at the Castella Division, told of some of his tough problems in forestry in a very rough terrain. He said that aerial photos were invaluable for laying out logging roads and that a Skagit SJ4 combination log loader and yarder had been used to good effect in rough country where it was impossible to use tractors without destroying new growth.

"The country looked fine after we were through," he stated. "We moved the machine frequently and few trees were knocked down. We also used light rubber-tired arches with "Cat" D7 tractors to good effect on very rocky ground. We logged 100M ft. per day with two of these units."

James Denny, California Div. of Forestry, Redding, said that the primary purpose of the service forester is to educate the small timberlands owner in good forest management. This is done by seven California service foresters.

ROBERT E. DASMANN, USFS, Willows, told of the work of the federal forester. He is supervisor of Mendocino National Forest, covering about

Wheland Automatic Lumber Sorter installation, H. M. Walker Lumber Co., Battleboro, N. C. View from delivery end toward mill.

Mr. M. R. Walker wrote—

". . . We use our Sorter to separate kiln dried lumber. Our former method of separating a kiln charge of 35,000 FBM required 140 man hours. Since installing the Sorter, this has been reduced to 64 man hours."

Four months operation at their planing mill and kiln showed such great savings that Walker bought a second Wheland Automatic Sorter for their sawmill. You, too, can make big savings by this method !

The Wheland Automatic Lumber Sorter is furnished to order for any installation and any number of separations. Detailed Bulletins sent free on request.

WHELAND

THE WHELAND COMPANY

CHATTANOOGA, TENNESSEE — PHONE 5-3181

MANUFACTURERS OF COMPLETE SAWMILLS AND AUXILIARY MACHINERY

1,000,000 acres. He pointed out the multiple aspects in forest management with which his group has to deal.

William Hendrickson, Nevada Union High School, Grass Valley, told of the problems of the instructor in forestry at the high school level, and mentioned the work that was being done in other California high schools and junior colleges in forestry.

Henry J. Vaux, Dean of the School of Forestry, University of California, said that the forest industries in California have doubled in the past 10 years. He stated that 20 percent of the increase in the working population in the northern counties of the state have been absorbed by forest industries.

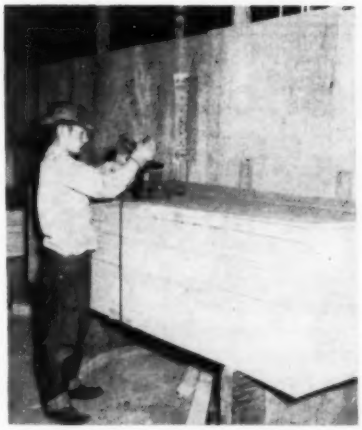
At the banquet, William S. Rosecrans, chairman, California Board of Forestry, told the group that if foresters were to serve the forest industries the way they should they should educate themselves to take a position of leadership in the state.

Plant Begins Production

(Continued from page 127)

entire output of the plant must be trucked to Port Angeles for transshipment via railcars. Extreme transportation costs are offset by a "participating rate" offered by a trucking line and the Milwaukee Road.

All plywood as well as what green veneer is still sold is banded by steel strapping; ½-in. wide Signode strap is used. Two bands are placed on the veneer bundles and one on the panels.



WORKMAN CINCHES bundle of plywood with Signode steel strap. A single strand of ½" strap is sufficient for firm, solid bundles.

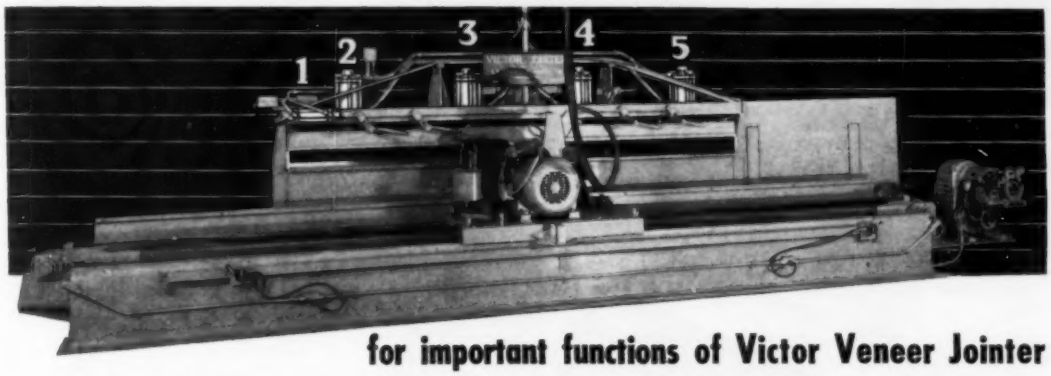
Personnel and Sales

Sydney Tozier of Port Angeles has been president of National Plywood ever since it was organized. Other officers are Jack Del Guzzi, vice pres.; Jos. H. Johnston, secretary; and Ernest Jonson, treasurer. Logging manager is Charles Kirkwood, also a director of the Olympic Logging Conference.

Northwest Door & Plywood Sales, Inc., Tacoma, while not connected with this new company financially, is handling the sales. NW Door's General Manager Russell Walters is a director of National Ply. Walters' former assistant at Tacoma, Miles Munson, was appointed by National Plywood directors to manage the plant early in 1955.

A Linck 28x22 gangsaw has been installed at King Lumber Industries (Canton, Miss.) mill at Forest, Miss. It was sold by Corley Mfg. Co., Chattanooga, Miss., distributors for the German firm of Gebruder Linck and is equipped with hydraulic feedworks with sealed in moving parts. Several of these gangsaws have been sold out of Corley's Portland, Ore., factory branch, and a 15x17 size unit is going into Dalton Bros. sawmill at Easley, S. C.

5 NOPAK Cylinders supply pressure and pull



for important functions of Victor Veneer Jointer

The Victor Straight-Line Veneer Jointer, built by the E. V. Prentice Co., Portland, Ore., employs a NOPAK Model E 2½" x 6" Cylinder to operate the stops which align the stock, and 4 NOPAK Model D, 6" x 5" Cylinders to exert adequate, equalized clamping pressure on the full length of the stock to be joined. All cylinders are controlled from a single station to provide for fast precision alignment and clamping in a rapid, repetitive work cycle.

This is another example of the important role played by NOPAK Cylinders and Valves in actuating and controlling precision machine movements. Others are shown in the NOPAK Application Manual. Ask your NOPAK Representative to show you this helpful book.

GALLAND-HENNING NOPAK DIVISION

2779 S. 31st STREET • MILWAUKEE 46, WISCONSIN

NOPAK

® VALVES AND CYLINDERS

DESIGNED for AIR and HYDRAULIC SERVICE

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58 S.W. Oak St., Portland, Oregon

E. C. GRIFFIN CO.
524½ First Ave., South
Seattle 4, Wash.

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Spokane 11, Washington

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CAL-ORE MACHINERY CO.
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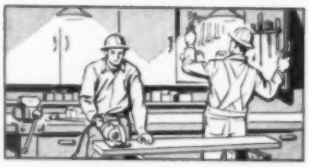
JAMESON SUPPLY CO.
Lewiston, Montana

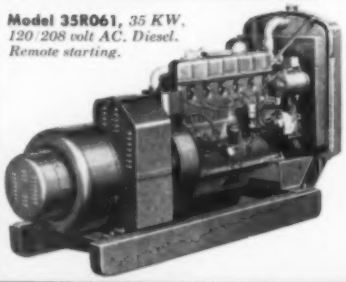
KOHLER Electric Plants

Independent power for all logging camp needs



Heavy-duty, 35 KW Kohler Diesel Plant provides reliable, 'round-the-clock electricity for outdoor and indoor lighting, floodlights, work-shop power tools, construction equipment, communications, refrigeration, all other work camp requirements . . . Also available are 10 and 15 KW Diesel models, AC and DC—and gasoline models from 500 watts to 35 KW. Write for folder K-2.

Model 35R061, *35 KW, 120/208 volt AC. Diesel. Remote starting.*



Kohler Co., Kohler, Wisconsin
Established 1873

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PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR-COOLED ENGINES • PRECISION CONTROLS

Lawson LUMBER STACKER

THIS INSTALLATION

—is at Keltys, Texas and is for the big Angelina County Lumber Company's new, high efficiency mill. It handles lumber direct from the green lumber conveyor chain.

SAVE MONEY

ON YOUR LUMBER STACKING

—use less help—stack more lumber

LAWSON LS STACKER PATENTS PENDING

WE'LL PROVE IT

We can prove that a Lawson Stacker will save big money on your operations and will be one of your most valuable pieces of equipment. Write—or phone and we will send literature and facts.

You can cut your lumber stacking cost to a new low by installing a Lawson Stacker. In scores of mills they are saving hundreds of dollars on labor cost each year—and what's more, they are doing the job better; spacing for quicker and better drying and saving much loss due to downgrading from warpage. These ruggedly built stackers handle all kinds of lumber; random widths, lengths and thicknesses. You ought to have one for your mill. We'll gladly send more facts.

LAWSON STACKER CO., 1571 THOMAS AVE., MEMPHIS, TENN.

Log & Lumber Prices

• Log Prices—Columbia River

Douglas Fir Peelers: No. 1 $115 to $125; No. 2 $105 to $110; No. 3 $85 to $90.
Douglas Fir Sawlogs: No. 1 $60 to $68; No. 2 $50 to $58; No. 3 $45 to $47.50.
Hemlock: Peelable $55 to $70; No. 1 $50 to $60; No. 2 $42.50 to $50; No. 3 $40 to $42.50.
White Fir: Same as Hemlock.
Noble Fir: Peelers $70; Sawlogs: No. 1 $65; No. 2 $60; No. 3 $40.
Cedar: No. 1 $85 to $100; No. 2 $50; No. 3 $35 to $43.
Spruce: Select $75 to $90; No. 1 $50 to $65; No. 2 $45 to $60; No. 3 $40 to $42.50.
Douglas Fir Wood Logs: $25 to $28.

• Douglas Fir Prices

1x8	#3 or 4 S KD	$ 67- 70.00
2x4	#1 Dimension S4S KD	91- 93.00
1x4	B&Btr VG Flooring KD	170-175.00
1x6	B&Btr Drop Siding KD	160-165.00
1x6	B&Btr S4S KD	170-175.00
1x8	B&Btr S4S KD	170-175.00
1x10	B&Btr S4S KD	175-185.00
1x12	B&Btr S4S KD	215-220.00

#1 Timbers and Plank

3x12	6-20'	$ 87- 90.00
3x12	22-24'	92- 95.00
3x12	26-32'	100-105.00
4x4	6-20'	92- 95.00
4x4	22-24'	92-100.00
4x4	26x32'	105-110.00
6x6	8-20'	87- 90.00
6x6	23-30'	92- 95.00
6x6	32-40'	107-110.00
8x8	8-20'	86- 89.00
8x8	22-30'	91- 94.00
8x8	32-40'	106-109.00
6x10, 8x10, 10x10, 12x12, 8x30		86- 89.00
6x10, 8x10, 10x10, 12-12, 22-30		91- 94.00
6x10, 8x10, 10x10, 12x12, 32x40		106-109.00
Douglas Fir Cross Ties		67- 70.00

#1 Dimension (Green)

2x4	6-24	$ 79- 82.00
2x6	6-24	79- 82.00
2x8	6-24	78- 81.00
2x12	6-24	78- 81.00

#2 & Btr. Boards (Green)

1x4	6-20	$ 54- 57.00
1x8	6-20	73- 76.00
1x12	6-20	69- 72.00

• Western Pine Prices

The following F.O.B. mill prices, based on Past Sales, were reported to the WESTERN PINE ASSOCIATION by members during the period 12/5 to 12/17/55 inclusive. Both direct and wholesale sales are included and are based on specified items only. They are for dry surfaced lumber.

PONDEROSA PINE

	4/4RW	5/4RW	6/4RW
SELECTS S2 or 4S			
C Select RL	$262.61	$266.47	$261.05
D Select RL	212.43	225.03	221.82
SHOP S2S	No. 1	No. 2	
5/4	139.75	109.55	
6/4	139.49	107.26	
COMMONS S2 or 4S	No. 2	No. 3	
1 x 8" RL	110.52	78.56	
1 x 12" RL	115.85	77.62	
4/4 No. 4 Common S2 or 4S	62.21		

IDAHO WHITE PINE

	4/4RW	6/4RW	
SELECTS S2 or 4S			
Choice (C) RL	268.79	280.00	
Quality (D) RL	219.81	259.24	
COMMONS S2 or 4S	Colonial (#1)	Sterling (#2)	Stand. (#3)
1 x 8" RL		149.59	101.48
1 x 12" RL		156.97	102.77
4/4 UTILITY (#4) S2 or 4S RW&L	67.23		

SUGAR PINE

	4/4RW	5/4RW	6/4RW
SELECTS S2 or 4S			
#1 & 2 Clear RL	283.24	286.36	284.96
C Select RL	271.70	276.57	276.88
D Select RL	237.98	236.74	238.62
SHOP S2S	No. 1	No. 2	No. 3
5/4	152.50	113.68	74.49
6/4	151.64	111.44	78.26
8/4	156.25	120.61	79.77

LARCH-DOUGLAS FIR

4/4 No. 3 Common S2 or 4S	$ 71.35
2x4 No. 1 Dimension RW&L	$ 86.79
2 x 4 No. 2 & Btr. Dimension RW&L	75.22

• British Columbia Log Market

Reported by C. D. Schultz & Co., Ltd., Vancouver, B. C., consulting foresters and engineers.

(Log prices are per thousand feet board measure.)

FIR—Log stocks constant, with demand heavy. Price range remains at $50.00 to $60.00 for #3's; $60.00 to $70.00 for #2's and $70.00 to $80.00 for #1's. Peeler price range $80.00 to $90. for ₰3's; $90.00 to $100.00 for #2's and $100.00 to $110.00 for ₰1's.

CEDAR—Log stocks down slightly, demand heavy on all grades. Shingle Cedar price range still $37.50 to $47.50 for #3's; $50.00 to $60.00 for #2's and $65.00 to $75.00 for #1's. Lumber Cedar price range $67.50 to $77.50 for #2's and $77.50 to $87.50 for #1's. Tie Cedar price range $37.50 to $47.50.

HEMLOCK & BALSAM—Log stocks increasing, with buyer resistance being met on all grades. Price range now $40.00 to $50.00 for ₰3's; $47.50 to $57.50 for #2's and $55.00 to $65.00 for #1's. Balsam price range $37.50 to $47.50. Sorted lumber Balsam $42.50 to $52.50.

• Douglas Fir Plywood

5/16" AD Int. basis .....$85-90/M sq. ft.

• Southern Pine Prices (KD Stock)

Vertical Grain Flooring

	B&Btr.	C	D
1x4 Heart	250.00	235.00	200.00
Flat Grain Flooring			
1x4	160.00	150.00	120.00
1x6	175.00	165.00	125.00
Drop Siding			
1x6 ₰106	191.00	170.00	130.00
1x6 #116	191.00	170.00	130.00
Boards & Shiplap			

No. 1 (D)	1x6	1x8	1x10	1x12
Grade	130.00	120.00	122.00	178.00
No. 2	83.00	88.00	84.00	97.00
No. 3	72.00	83.00	76.00	76.00

No. 1 Dimension

	12'	14'	16'	18'	20'
2x4	98.00	98.00	101.00	118.00	123.00
2x6	100.00	104.00	101.00	115.00	120.00
2x8	97.00	97.00	95.00	115.00	120.00
2x10	110.00	110.00	115.00	130.00	135.00

No. 2 Dimension

2x4	95.00	95.00	98.00	107.00	112.00
2x6	86.00	90.00	88.00	102.00	107.00
2x8	86.00	86.00	86.00	99.00	104.00
2x10	94.00	98.00	92.00	105.00	110.00
2x12	96.00	94.00	94.00	115.00	120.00

No. 3 Dimension S4S6 KD

2x4	76.00	76.00	80.00	86.00	91.00
2x6	73.00	73.00	73.00	80.00	85.00
2x8	75.00	74.00	74.00	75.00	80.00
2x10	67.00	72.00	67.00	72.00	77.00
2x12	67.00	67.00	67.00	77.00	82.00

• Red Cedar (industry standard) Shingles

Royals			
No. 1	24"	4/3	$16.25
No. 2	24"	4/2	$ 9.50- 10.50
No. 3	24"	4/2	5.50
Perfections			
No. 1	18"	5/2¼	$12.50-$13.25
No. 2	18"	5/2¼	6.75- 7.00
No. 3	18"	5/2¼	4.50- 4.75
XXXXX			
No. 1	16"	5/2	$10.75-$11.00
No. 2	16"	5/2	6.75
No. 3	16"	5/2	4.75- 5.00

• Increased visual efficiency will prevent many of the so-called "carelessness" type of accidents. Some of the major optical companies of America are offering lumber companies the use of the Sight Screener, without cost. The sight Screener does not provide a complete optical refraction, but it does immediately point out gross defects in eyesight, and indicate individual needs for refraction and eye glasses. The optical companies also furnish shatter-proof prescription eye glasses at a price considerably below the cost of ordinary eye glasses in connection with the Sight Screener service.

Hand Operated • Foot Operated 2-position Power Operated • 3-position Power Operated • Solenoid Operated • 2 or 3-position Momentary Energizing • Continuous Energizing • Safety Energizing • Exhaust to Neutral Cycle Standard Cycle • Manual return to Neutral or Reverse • Spring return to Neutral or Reverse Finger Pilots • Cam Pilots • Air or Gas Pilots Solenoid Pilots. Available in sizes from ¼" to 1¼" standard pipe connections.

Standard Ledeen disc-type valves are positive in operation, have few moving parts, require very little maintenance, are built to last for millions of cycles.

Ledeen Valves for Longer Life

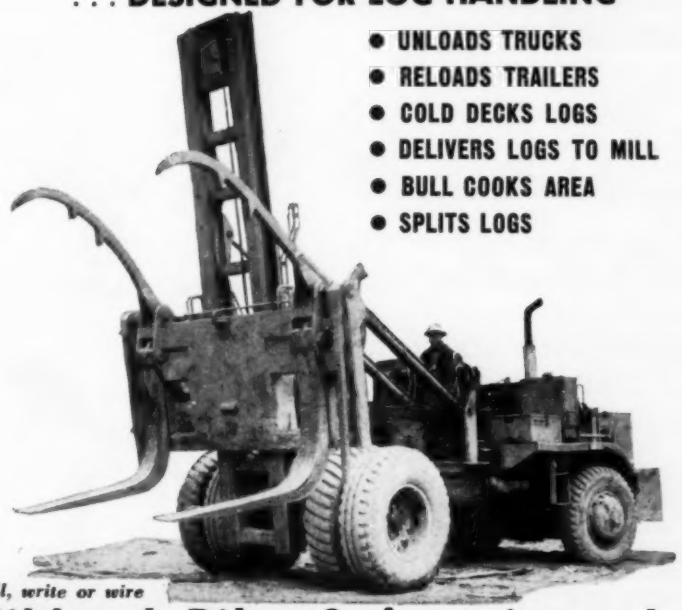
Write for Bulletin 1010.

VALVES • CYLINDERS
VALVE ACTUATORS • AIR-HYDRAULIC PUMPS & BOOSTERS

Ledeen Mfg. Co.
1604 San Pedro St.
Los Angeles 15, Cal.

HRS HERCULIFT

. . . DESIGNED FOR LOG HANDLING



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- SPLITS LOGS

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Plant Produces Spruce

(Continued from page 83)

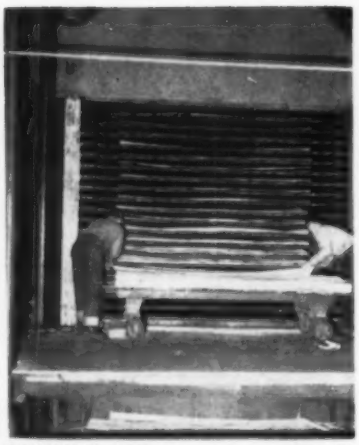
and camp buildings, was assembled in Port Angeles, Wash., and floated north on barges. L-O-G formerly was a large operator on the Olympic Peninsula. Falls Creek Logging Co. at Edna Bay (Kosciusko I.) is also supplying high-grade spruce in quantity.

Logs are also purchased from various other operators, including Ketchikan Pulp Co. and pulpwood contractors and other independents scattered throughout Southeastern Alaska. Only one-fifth of the timber in Southeastern Alaska is Sitka spruce; good stands are few and far between, hence the great number of individual suppliers. The Juneau plywood plant requires about 60,000 bd. ft. of peelers per day.

Few mills anywhere can boast of men with such extensive experience in the manufacture of plywood. For example, Plant Supt. Elmer Brown started out with Harbor Plywood back in 1926. After 10 years he moved over to mill foreman for West Coast Plywood for 12 years, then put in two years as superintendent for Stevenson Plywood and a like period as super at Oregon Plywood. He came north in 1953 and as one of the original stockholders and helped build the new mill.

Properties and Uses of Spruce Plywood

- Light Weight. A great advantage for manufacturers of wood products shipping out a volume of wood products.
- Much use in garage door panels. Lighter, less expensive hardware is possible because of less weight of door.
- Spruce is the strongest wood for its weight.
- Spruce finishes easier than Douglas fir plywood. The grain does not raise when primers are applied.
- Used for underlayment, such as to take Formica tops. Takes glue very satisfactorily.



COLUMBIA HOT press takes another 20-sandwiches of Sitka spruce veneer at Alaska.

GREENLEE SKINNER & trimmer saw panels to length. Am. Sheet Metal Wks. ducting system.

The plywood career of sander foreman Lee Warrick dates back 37 years to 1919 when he went to work for the old Tacoma Veneer Co., now North Pacific Plywood. He also worked at the old McCall-Paine Veneer Box plant in Vancouver, Wash. He spent 13 years with Buffelen in Tacoma and another 10 at Cascades Plywood, Lebanon, Ore., and has worked for Cal-Pine at Klamath Falls, Ore. He helped install machinery at Juneau.

Major Equipment and Materials

Ederer cranes (two); **Nicholson** barker; **Coe** lathe, 110" swing, 135" knife, hydraulic chuck; **General Electric** amplidyne lathe drive; **Simonds** veneer knives; **Coe** automatic clippers (two).

Proctor & Schwartz 4-line 14 section dryer; **Victor** veneer jointer; **Dennis** veneer taper; **Raimann** patcher; **McFall** glue spreader (Lawrence Machine & Mfg. C.); **Furafil.**

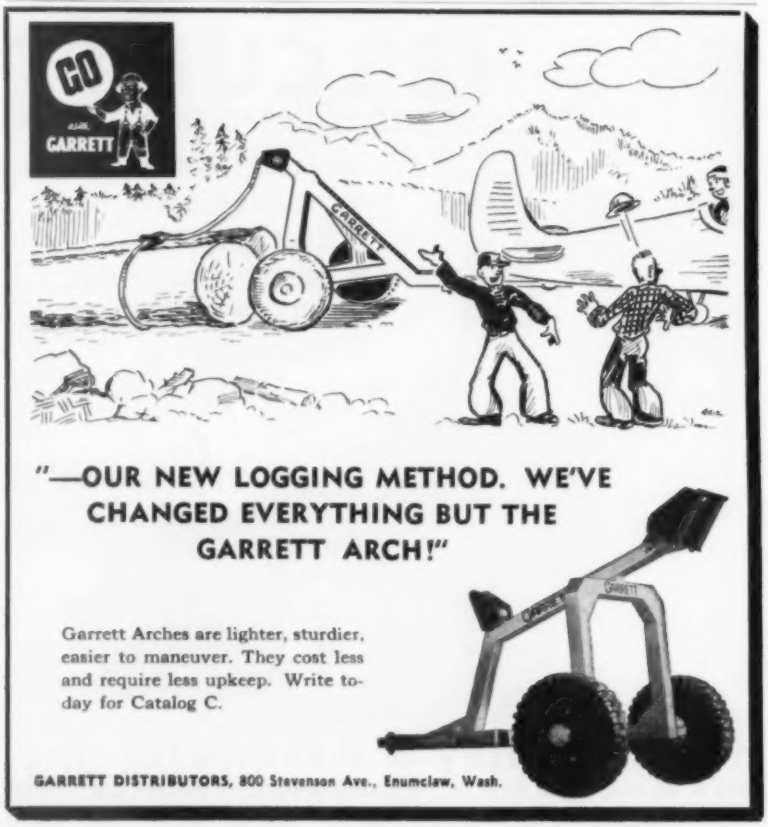
Reichhold Plyophen; **Columbia** hot press, 5x10', 20-opening, Oilgear pump unit; **Greenlee** trimmer and skinner saws; **Yates-American** sander, 8-drum; **Acme** steel strapping for bundles of plywood; **Skylift** from Air-Mac, Inc.

Hyster J-3 fork lift (leased); **Corley** stud mill; **Armstrong** air setworks; **Simonds** 54", 7 ga. circular saw; **Simonds** 14" horizontal edger saws; **Acme** strapping for studs.

New Aid for Shippers

• A new service designed to aid shippers and buyers of transit lumber cars was announced this week by P. R. Jensen, Seattle. The new organization, known as Lumber Communication Service, will feature an overnight listing of all transit cars.

The purpose is to provide wholesalers and commission men with accurate, up-to-the-minute information on cars in transit. Data on all transit cars from Northwest shippers daily will be forwarded over leased wires to subscribers throughout the central and eastern parts of the country. Subscribers will receive daily complete information on all cars in transit.



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Thinning Methods Tried

(Continued from page 86)

Special effort has been made to recover maximum variety of products from the forest in an integrated type of logging operation. A large loading area provides room to sort and load separately several types of products. All logs too small for sawtimber have been bundled separately for pulpwood.

Marked trees are cut as closely to the ground as possible. Trees are utilized to a five-inch top. Sawlogs are cut to an eight-inch top, and the remainder taken as pulpwood. Random length logs are cut to ensure the maximum recovery of usable wood. Where possible, specialty products such as fir pilings and cedar poles are rough-made by the fallers.

The area is logged under contract by the Jackson Brothers Logging Co. A small Caterpillar D4 tractor and arch are used for yarding. All logs (except the large cedar logs) are sorted and bundled at the landing prior to loading. Sawlogs, pulpwood, pilings, etc., are sorted by species and each type bundled separately. Bundles are made up in a crib designed for this operation. A 5-ton truck trailer unit with 5-feet bunk stakes is used to transport bundles to the dump.

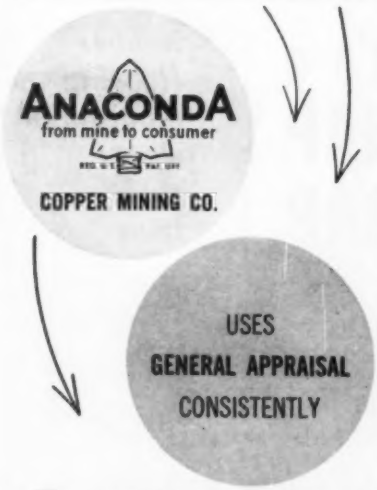
EVERY EFFORT IS made to keep damage to the residual trees to a minimum. In falling and yarding operations scarring of residual trees is avoided. A metal shield placed around trees subject to repeated rubbings has been successfully used.

Plans of Canadian Forest Products call for a second thinning in 10 years time, and a third after another ten year period. During the next twenty year period utilization of trees will have increased 33 percent by cutting and using trees that would normally die and rot. During the 1965 thinning, approximately 50 trees per acre will be removeed for a yield of 2,631 cubic feet per acre. Twenty years hence, only twenty trees per acre will be removed but with a yield of 2,851 cubic feet per acre.

A network of skidroads will be valuable in salvaging trees attacked by insects or fungii, or trees toppled by wind.

A large volume of dead and windfall cedar is being utilized in the manufacture of shingles and shakes. The operation is carried out on a stumpage basis by Skagit Shake and Shingle Co.

Experiments being carried out by Canadian Forest Products are being carefully watched by the rest of the industry. Experience gained at the Sechelt Tree Farm will provide much workable knowledge for future tree farm operations in second growth stands.



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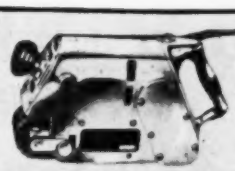

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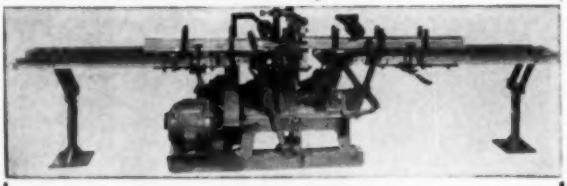

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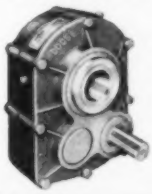

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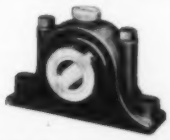

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Photogrammetrists Meet

(Continued from page 119)

included standard error of the mean, sampling error, etc. A brochure on the system is available.

Jack Lakefish, IBM Corp., Portland, Ore., described in detail the punch card system used in completing a Douglas fir grade cruising project for K. B. Wood & Associates, Inc. It can be used with or without aerial photos.

Chet Williams, BLM, described the land surveying methods of early days. Bill Hall and Professor Sybren deJong, University of British Columbia, Vancouver, B. C., discussed horizontal and vertical control from tricamera high obliques.

Aerial photographs have proved valuable in inventorying land in Grays Harbor County, Wash., for taxation purposes, said Don Pitzler, County Tax Assessor's office, Aberdeen, Wash. Flights started in May 1952. A township map was used to obtain acreages by individual ownerships. Sixteen townships have been processed and 36 townships still remain to be done. New timber values will be obtained.

W. Coast Lumber Grades Named

(Continued from page 121)

applies already in the larges sizes—7½", 9½", 11½". This is in accordance with American Lumber Standards.

In some cases knot sizes have been tightened, in other cases the restrictions on wane or splits or white speck have been somewhat eased. More than two years of consideration has gone into the development of Rule #15.

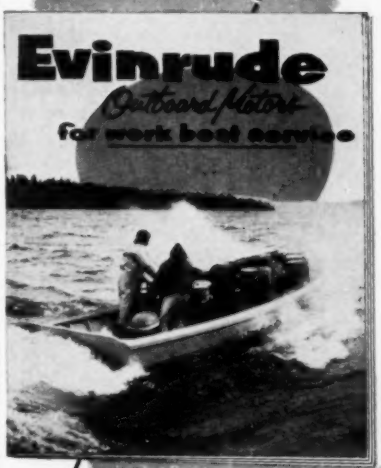
It is a grading rule shaped for the buyer and consumer of lumber rather than the professional grader.

It will usher in four words which will long be useful to the retail lumber dealer CONSTRUCTION, STANDARD, UTILITY and ECONOMY.

Effective date of the new rules will be announced soon. Copies of Rule #15 will be mailed to all segments of the industry.

• **B.C. FOREST** Products, Ltd., which operates four sawmills and several logging camps in British Columbia, plans to increase capacity of its proposed bleached kraft pulp mill at Crofton, Vancouver Island, to 425 tons daily, and construction will cost about $36,000,000, according to President H. G. Munro. The company reports record lumber and plywood production during the past year, with a net profit of $3,686,156, compared with $2,185,725 the previous year.

new book



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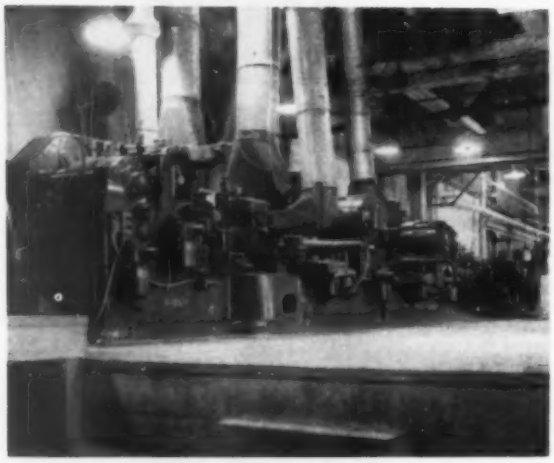
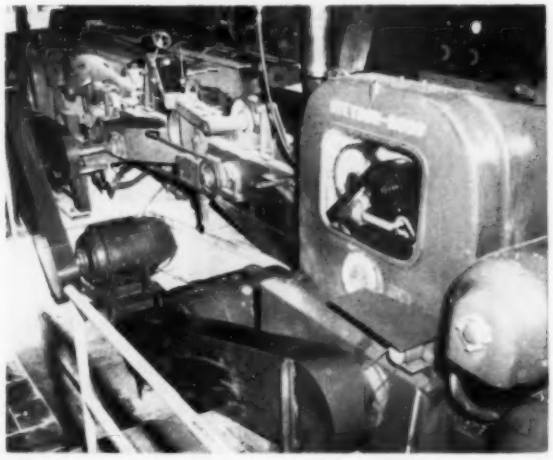


SPLIT ENDS OF LUMBER are avoided by sending cupped stock first through Stetson-Ross 6-12-CH6 pre-surfacer, and secondly to S-R 16-knife 6-12-C1 planer and matcher (above).



NEW MACHINE on the No. 7 production line at J. Neils' Libby plant is this Stetson-Ross 6-12-C1 with double General Electric amplidyne drive. Note operator's controls above right.

How Neils Mill Beats the Bugs

new surfacing equipment was added to handle greatly increased output

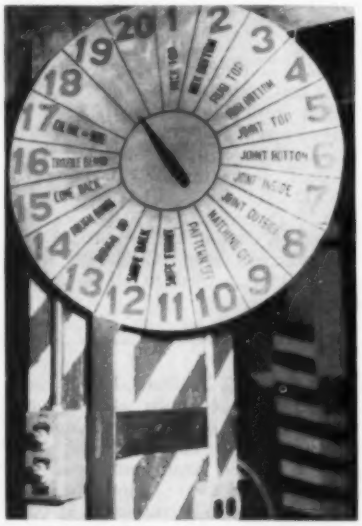
PRODUCTION PROBLEMS caused by the infamous Englemann spruce bark beetle haven't been confined to logging alone—planing mill production men in the western pine region have had to meet and solve some new problems of their own. One company, J. Neils Lumber Co., revamped its finishing department to keep step with the greatly accelerated output of lumber.

Faced with the immediate need to substantially increase planer production, the Libby mill added two new Stetson-Ross, 16-knife, 6-12-C1 planers and matchers with "cartridge" profilers, and one Stetson-Ross 6-12-CH6 pre-surfacer. As the infected timber is disposed of, older outmoded equipment will be retired, thus resulting in substantial modernization of the planing mill.

In the No. 1 production line is the 6-12-C1 planer and matcher, and set immediately ahead of it is the 6-12-CH6 pre-surfacer. The pre-surfacer takes a light cut from the top and bottom of 1" cupped lumber so that when it goes into the planer and matcher feed rolls, split ends do not develop. Prior to the installation of this new machine, cup planing was done in a separate operation and required considerable extra handling.

ON THE NO. 1 MACHINE, loads come in endwise on the roll case and are broken down by means of a Stetson-Ross tilting unloader hoist, feeding directly into the pre-surfacer and planer. On the outfeed end of the planer, the stock passed through a manually selective random-length end-trimmer with individual motorized saw units. The stock then proceeds to sorting chains at the end of which is a tilting reloader hoist. Racks for the accumulation of stock to be bundled are also provided on the sorting chains.

The focal point of the No. 7 production line is a Stetson-Ross 6-12-C1 Planer and Matcher. Stock comes in endwise on a roll case, is broken down by means of a Stetson-Ross Tilting Unloader Hoist from which it feeds through the automatic random length end trimmer. The saw units on this trimmer are V-belt driven. From this point, the stock feeds directly into the planer feed table. Stock discharges onto grading chains. Pieces to be upgraded by trimming, proceed to a twin cut-off saw, merry-go-round arrangement and return to the grader. From the grader, the stock proceeds through a short sorting table and reloader hoist.



THIS INDICATOR is actuated remote'y from the grader's position in Production Line No. 1. Operation of this indicator simultaneously stops the planer feed and tells the planer operation what corrective action should be taken to get back on the grade.

Arthur Neils, assistant plant manager, reports that the new planer installations have enabled them to keep up with the accelerated production required because of the unusually large volume of spruce, and has eliminated running all of the old machines on a two-shift basis.

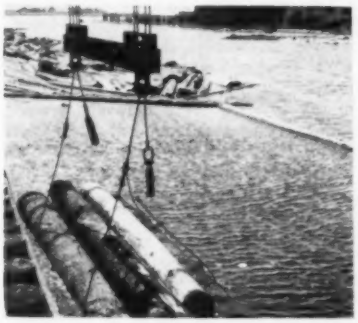
OTHER ADVANTAGES realized from the new planer installations include better utilization of the carrier service, more efficient sorting and improved trimming. The 16-knife planers with their large 11" cutting circle heads maintain the high quality of finish required by the J. Neils Lumber Company, even though they run at much higher speeds than the old planers.

A. J. Agather is in charge of all production at the Libby operation, Brad Phillips is shipping superintendent, and Al Becker is planing mill superintendent. Total production is about 525,000 bd. ft. per day; principal species are white pine, Engelmann spruce, larch and Ponderosa pine.

One of the interesting innovations in the planing mill is an arrangement whereby the grader can instantly stop the planer feed table and at the same time transmit to the planerman via a selsyn motor indicator the reason for the shutdown. The grader is some distance from the planer. This rapid communication system minimizes loss.

New Products & Services

for the forest industries



PICTURE WAS SNAPPED just as the water begins to support weight of logs, thus automatically releasing two hooks holding cables. Hooks are set to release when predetermined tonnage is reached.

For Quicker Unloading

• The new Mar hook, developed by John Mitchell of Grays Harbor, Wash., has been put into use by various companies dumping logs from trucks, flat cars and gondola cars. These hooks are designed to accommodate J-8, J-9 and J-10 knobs or ferrules attached to sling. They help reduce man hours while increasing production and making for a safer operation. Manufacturer is Mar Hook & Equipment Inc. of Aberdeen, Wash.

• The Multi-Matic Corp., Van Nuys, Calif. manufacturers of Gen-a-Matic electric plants, centrifugal pumps and Super Hole-A-Matic earth boring machines, is changing the company name to the **Gen-A-Matic Corp.** Northwest Loggers Supply, Inc., 310 East Stephens St., Portland, has been appointed a central distributor for Oregon and adjacent counties in Wash.

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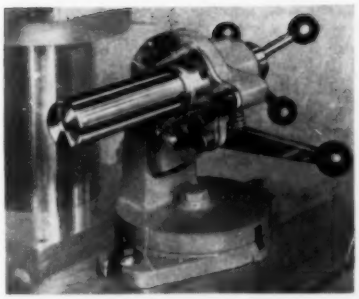
No Jockeying in Tight Corners

THIS LOAD will be easily shifted into exact placement in this plywood warehouse without moving the lift truck at all. It's done with the hydraulic Swing Shift Unit. The operator can quickly pivot the forkload 20 degrees horizontally and shift the forks up to eight inches sideways. Used on most of the leading fork lift trucks now, Swing Shift means an end to jockeying loads into position.



New Index Assures Accuracy

• This entirely new gauge index for speedy and accurate grinding of cutterheads has been developed by Dependable Machine Co.

Known as the G-12 Cutterhead Grinding Fixture, it is adaptable to practically all cutterhead grinders, regardless of make or model, and will accurately handle heads with bores from ½" to 2½". Heads up to 12" long are easily handled when fixture is equipped with center stand.

The G-12 is equipped with a 12 notch index sleeve which is suitable for grinding heads with 1, 2, 3, 4, 6, 8 or 12 knives.

Extra equipment includes a spring pointer mechanism, roller setting gauge, a dial indicator and a diamond wheel dresser. A special Jacobs Chuck arbor is furnished for grinding router bits, drills and other straight shank cutters.

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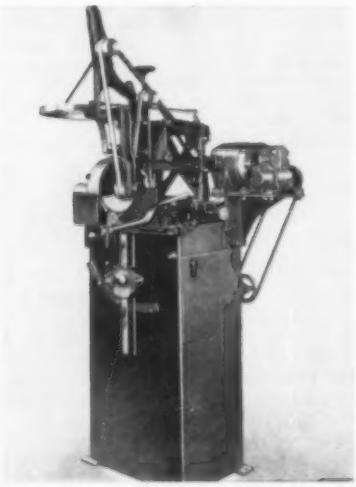
TRUCK TRACKS LIKE THESE help the armed forces travel through mud, snow, sand and rough going and have also been widely adopted by truckers and contractors. The tracks, available at equipment dealers or from P&G Supply Co., Portland, Ore., fit most tires, are easy to mount, give up to 500% greater flotation and are quickly and easily adjusted to various size tires and road conditions. They come in standard tracks of 15" for single and tandem axles. Heavy duty 18" tracks are also available for many larger size tires.

★ ★ ★



Armstrong Improves No. 16

• Armstrong Manufacturing Co., Portland, Ore., recently announced an improved new model of their No. 16 circular rip and cut-off saw sharpener (see cut). Exterior appearance and some of the interior features of the machine have been changed.

A new, all-steel frame which extends all the way to the floor eliminates the need for a specially made pedestal for the machine to rest on. Latest type anti-friction ball bearings and new nylon bushings for the cone screws have also been added at some points.

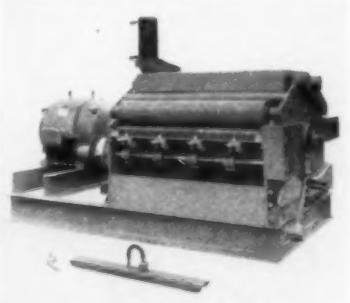
Especially adapted to small, fine tooth circular saws, adjustments are quickly and easily made on the new No. 16 for different spaces and shapes of teeth and for saws of different sizes.

Sign Up Immediately for Free Ball Bearing Classes

• Between Jan. 23 and 27 in the Pacific Northwest, United Motors Service Div. of GMC will repeat its "Ball Bearing Application & Maintenance Procedure School" to be conducted by two New Departure division factory engineers. It is a one-day school, with separate sessions in the Seattle and Portland areas. Many men from the forest industries attended last year.

It will cover the maintenance and service procedure of ball bearings, with particular emphasis on methods of prolonging bearing life through proper care. This school is for plant engineers, maintenance men, machinists and bearing specialists. Men desiring to attend this school should contact Thomas J. Dean, bearings representative for United Motors Service, immediately. His address: 5000 1st Ave. So., Seattle 4.

Schedule of meetings: Jan. 23, 24, in Seattle at Boeing Airplane Co. plant 2 auditorium; Jan. 26, 27, in Tigard, Ore., GM Training Center auditorium. Attendance is free.



Monarch Adds Edger

• This picture shows the first of a new line of edgers introduced by Monarch Forge & Machine Works, Inc., Portland, Ore. The first model produced takes lumber up to 4" in thickness. Monarch is following with new edgers up to 12".

Two features incorporated in these edgers are a double-keyed, large-diameter, chrome-plated, alloy steel arbor for the saws and a simplified shifting mechanism. Shift levers work on rotating shafts with design provisions to take up bearing wear and utilize a new positive locking device that assures cutting accuracy.

Monarch's edgers were preceded by a complete new line of trimmers last month, giving the firm a complete line of major sawmill machinery.

★ ★ ★

• **Atkins Saw Div., Borg-Warner Corp.** has opened three new branch warehouses: 111 N. Des Plaines Street, Chicago; 5600 Tulip St., Philadelphia; and 2400 Rossville Blvd., Chattanooga. These warehouses, together with Atkins warehouses in Los Angeles and Portland, Ore., provide fast, dependable coast-to-coast service.

News of Suppliers

- **Machinery salesman**
- **Distributors**
- **Manufacturers**

• **Baldwin-Lima-Hamilton Corp.**, Construction Equipment Div., Lima, O., has appointed **J. V. Gunter** as district sales manager for LIMA shovels, cranes and draglines in the Southern District, succeeding Fred L. Maus who has joined the R. A. Young distributor organization at Fort Smith, Arkansas.

Mr. Gunter will operate from branch headquarters at Atlanta.

★ ★ ★

• **Gerlinger Carrier Co.**, Dallas, Ore., has opened three main parts depots in Oregon, Ohio and Tennessee. The pioneer manufacturer of heavy-duty materials handlers is now prepared to give Gerlinger owners overnight service on parts anywhere in the nation. The new depots will carry a complete stock of parts in relation to the number and types of Gerlinger material carriers and fork lift trucks in each territory.

★ ★ ★

• Central California Blowpipe Co. of Escalon has changed its name to **California Blowpipe & Steel Co., Inc.**, because of the variety of steel products that we now fabricate, including chip loading systems, bulk storage tanks for wood, and heavy structural and plate facilities and machine work. The firm still maintains a complete line of air conveying and dust collecting equipment and cyclonic saw-slab burners.

★ ★ ★

• At annual meeting of the Anti-Friction Bearing Distributors Asso., **E. B. Williamson** was elected national president. He is chairman of the board, **Bearing Sales & Service, Inc.**, Seattle, a company he founded in 1928 and expanded to its present seven stores in Washington and Oregon. **Gordon Tupling**, Bearing Sales & Service vice pres. for Oregon sales, was elected national treasurer.

Old Firm With New Branch Store Now Distributes Poly-V Belts

CELEBRATING THE OPENING of the new Munnell & Sherrill Inc. store at 1620 W. 7th St., Eugene, Ore., are these employees of the industriay supply firm, headed by Abe Caniparoli, gen. mgr. Munnell & Sherrill were recently appointed distributors for Raybstos-Manhattan Poly-V drives, made by the Manhattan Rubber Div. M&S also has branches at Arcata and Ukiah, Calif., headqtrs. in Portland, Ore.

• **R. Hoe & Co., Inc.**, Bronx, N. Y., has established a "Contract Manufacturing Division" to make available to all industry its precision manufacturing skills and facilities.

★ ★ ★

Where To Get Saws Sharpened In California Redwood Region

• Modern, precision equipment and the benefits of 40 years' experience in sawfiling are offered to millmen and loggers in California's Redwood region at the Walker Saw & Mill Service of Cloverdale. The owner is H. H. Walker, well known saw filer. The specialty of the Walker Service is band wheel grinding at the mill. The firm has a specially equipped truck to go out to the sawmill and do these jobs. Collars are also machined at the mill.

The firm also repairs circular and band resaws, and all other types of saws. Among the equipment in the shop is an Armstrong and Acme round saw gummer, and an Armstrong band resaw sharpener.

• The first overseas produced earth-moving machine to bear the **Caterpillar** label, a No. 12 grader, has come off the assembly lines in Braybrook, Australia.

★ ★ ★

• **Hensley Equipment Co., Inc.**, San Leandro, Calif., manufacturers of patented 'dozer and scraper rippers, cutting edges, bottom track rollers and allied tractor replacement parts has appointed several new exclusive dealers, including: Contractors Equipment & Supply Co., Fresno; Columbia Equipment Ltd., Vancouver, B.C.; R. A. Young & Son, Tulsa; W. L. Johnson Machinery Co., Midland, Texas; Doug-Lynn Mfg. & Machinery Co., Santa Rosa, Calif.; and Complete Industrial Supply Co., Phoenix.

★ ★ ★

• **Duane F. Kuntz** has been appointed an assistant sales manager in **International Harvester Co.'s** motor truck division. Previously manager of the southwest motor truck sales region, he has been located in the general office in Chicago as a regional manager since 1950.

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G. O. BRITTON now holds position of manager of distributor sales for American Hoist & Derrick Co. He has many years in allied fields. American has just introduced two new series of cranes and excavators, the 200 & 100.

HAROLD F. GREEN, a well-known lumberman in the western pine region, has been appointed factory repr. for Irvington Machine Works in eastern Wash., N. Idaho and W. Montana. He has 36 years in the forest industries.

★ ★ ★

New Capacity Is 36 Million Lbs.

• Increased manufacture of wood products in the west prompts another new Borden formaldehyde plant. Within the year, the Borden Co. will complete at Seattle a plant turning out over 36 million pounds per year. This output is in addition to that of the Springfield, Ore., plant.

The new plant will be under the direction of Ray T. Hanson, west coast general manager of the Borden Chemical Division. Mr. Hanson also manages the present Seattle plant producing dry adhesives for plywood, the Springfield plant and the Los Angeles plant, which produces industrial adhesives and polyvinyl acetate emulsions for adhesives and paints.

Chemical Div. Pres. A. R. Marusi states that this expansion will permit Borden to serve the entire area from western Canada to San Francisco.

★ ★ ★

• **S. D. Payzer,** vice pres., engineering, since Dec. 1954, is a newly elected member of the board of directors of D. J. Murray Mfg. Co., Wausau, Wis. Mr. Payzer has been with Murray since 1923. In 1926 he became chief engineer, and last year was elected Vice President in charge of engineering.

Big Jump From '36 Start

RALPH THOMAS (L) and FRANK PARKER both started to work for Howard-Cooper Corp. back in 1936; now they hold key positions with the firm, Pacific Northwest heavy equipment dealer.

Mr. Thomas has been named general sales manager over all branches. Mr. Parker, formerly vice president and general sales manager, has been named executive vice president. Frank Cooper is president.

In forecasting 1956, Mr. Cooper commented that the firm will complete a new building at Eureka, Calif. Howard-Cooper Corp. was recently feted by the International-Harvester Co. upon the 500th sale of the TD-24.

★ ★ ★

• **James Searer,** sales representative for **American-Marietta Co.'s** adhesive, resin and chemical division, has been transferred from Seattle to handle the forest industries of California. He will have headquarters in the Bay Area. He is succeeded in the Seattle area by **Bayard L. Carlson.**

Another A-M appointment is that of **Peter K. Schoening** to the post of plant engineer for maintenance and improvement of company plants in Portland, Seattle and New Westminster, B. C. He will also act in liaison with company engineers at Chicago on new construction. "Pete" is chairman of the famed Mountain Rescue Council and a veteran of Himalayan mountaineering.

★ ★ ★

• **William H. Depperman** has been appointed director of public relations of Link-Belt Co.

★ ★ ★

• **D. W. Lehti,** pres., **Link-Belt** Speeder Corp., is the new president of Power Crane & Shovel Assoc. **M. B. Garber,** vice pres., sales, The **Thew** Shovel Co., is vice pres. of the Assoc.

Each Manage a Product Line

Norton Co., Worcester, Mass., has consolidated the various sales functions in the Abrasive Division under separate sales managers. DONALD L. PRICE (L) handles grinding wheels and GEORGE A. PARK has been assigned to abrasives. Both have long experience in the abrasives field and have been with Norton many years. Fred L. Curtis, another sales manager appointed, will be responsible for new products.

★ ★ ★

• Another new distributor for **Manhattan Rubber Division** of Raybestos-Manhattan, Inc. is **Idaho Chain & Sprocket Co.** of Boise and Pocatello. This division manufactures Poly-V drives.

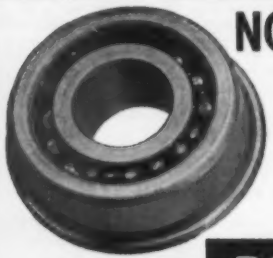
★ ★ ★

N. V. (Norb) CHEHAK has moved up from the district office of Link-Belt Speeder Corp., Portland, Ore., to become assistant sales manager of the firm. Mr. Chehak will be stationed at the factory in Cedar Rapids, Ia., assisting G. W. Rowand.

★ ★ ★

• **Clark Equipment Co.** will expand its new **Construction Machinery Division** plant in Benton Harbor by 50 per cent. The original plant, opened a year ago, had 150,000 sq. ft. of production area, and was designed specifically for the manufacture of Clark's line of "Michigan" tractor shovels, excavator cranes and dozers.

George Spatta, president, said the latest addition is necessary to fulfill "the increasing demand for our construction machinery products, which is considerably higher than we anticipated for 1955."



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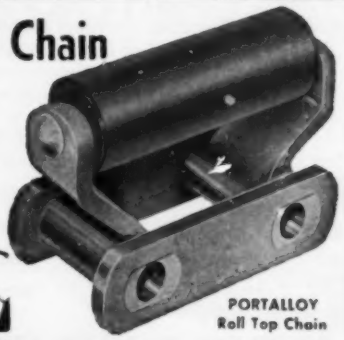


PORTALLOY Roll Top Chain

NEW TYPE LOG loading boom which mounts on a crawler tractor is being used near Pierce, Ida. The outfit is mounted in this instance on a D-8 Caterpillar and the hoist operates from the "Cat's" winch. The 30-ft. boom can be swung in a 180 degree circle swiftly and with great precision. This particular crew has loaded as high as 162,000 feet in 8 hours. The highly mobile loading outfit made by Hyster Eqpt. Co., Portland, Ore., can be moved quickly.

★ ★ ★

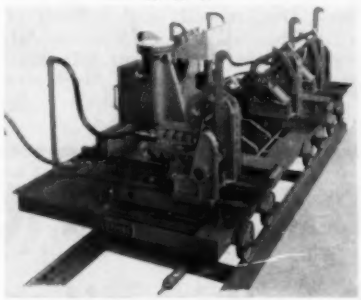
• **Beaver Saw & Chain Corp.**, 1510 S.W. First Ave., Portland, Ore., has been appointed distributor for the **Gear Engineering & Manufacturing Co.** line of chain saw replacement sprockets.

Gear Engrg. & Mfg. Co., Lynwood, Calif., now manufactures replacement sprockets for Homelite, McCulloch and Mall chain saws, in six, seven, and eight-point sizes.

★ ★ ★

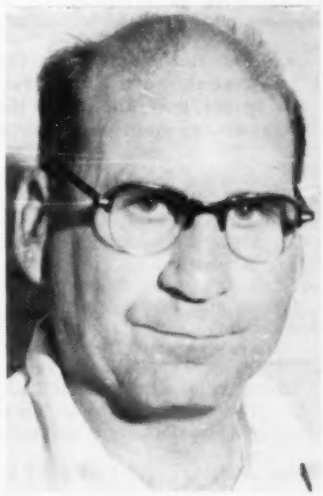
• To help control blasting cap accidents, the Institute of Makers of Explosives has a kit of materials available which discusses the dangers involved and gives instruction on what to do when a blasting cap is found. The kit contains a study-discussion sheet, a poster illustrating the various types of caps and an illustrated leaflet describing the Institute's safety film "Blasting Cap". The material is available on request from Institute of Makers of Explosives, New York City.

★ ★ ★



New Carriage Saws All Species

BOTH HARDWOODS and softwoods can be accurately sawn on Enterprise Co.'s new air-operated heavy-duty automatic sawmill carriage (see cut). It has 44" openings; it is completely push-button operated from either setter or remote positions. Automatic setworks is air-electric. This carriage was developed in answer to lumber industry requests for an automatic carriage that would take a combination of soft and hardwoods.



"I've never had any complaint with service I've gotten from Wood Tractor Co. over many years—and that's saying a lot."

Leslie Gibson
Canby, Oregon

For fine equipment and service call Wood Tractor Co., BE5-3135, Portland.

Leftovers Make Chips

• Pope & Talbot, Inc., has completed installation of barking and chipping facilities at its Oakridge, Ore., plant and now converts sawmill by-product wood into pulp chips at rate of six carloads per day. Logs are segregated by species. Premium hemlock chips are sold to a sulfite mill at Oregon City and the Douglas fir chips to the new kraft mill at Albany.

The P&T installation includes a 60-in. Nicholson mechanical barker, 66-in. chipper, Sumner chip screen, and Rader Pneumatic air transport system which delivers chips, with compacted loading, to any of eight stationary rail cars.

Do you save money when you by-pass your distributor?

See Page No. 41

Equipment Deliveries

• New machinery on the job means more production at lower unit costs for the operators mentioned here.

• The following firms have recently taken delivery of **Marathon** gang sawmills: In Oregon—**Stout Creek** Lumber Co., Mehema; **Rocky Point** Lumber Co., Klamath Falls, formerly at Cave Junction; **May Lumber Sales** Co., Selma; and **Redfir** Lumber Co., Philomath, owned by Marvin Ellis. In other states—**Bermon** Lumber Co., Black Hills, S. D.; **Balfour** Lumber Co., Thomasville, Ga.; **Bennett** Lumber Co., Greenville, Alabama. There are now 100 Marathon mills operating in U. S. and Canada.

U. S. distributors are Portland Machinery Co., Portland, Ore., and dealers include The Wheland Co., Chattanooga, and Palmer Machy. Co., Jacksonville, Fla.

★ ★ ★

•Blower systems have been installed recently by **California Blowpipe & Steel Co.** in these California mills or plants: Forest Products Laboratory, Richmond; West Side Lumber Co., Tuolomne; Firco Inc., Willits; Setzer Box Co., Sacramento; Anchor Bay Lumber Co., Richmond; Fibreboard Products, Stockton; Merced Box Co., Merced; Ready Hung Door Co., Merced; Interstate Container Corp., Red Bluff; Genessee Wood Products, Feather Falls; and at Vaughn Millwork and National Millwork, Reno, Nev.

The company also has placed burners at Forward Brothers, Red Bluff; Merced Box Co.; Rasmussen Lumber Co., San Andreas; and J. H. Baxter, Stockton.

★ ★ ★

• The **Diamond Lake Lumber Co.**, Klamath Falls, Ore., recently had installed on their **Klamath** Iron Works carriage a 200 hp **Zidell** Machinery & Supply Co., electric variable speed drive.

Also, **Covington Lumber Co.**, Minerville, Calif., installed a **Zidell** variable carriage drive unit. This was engineered by Zidell. Alyso, a 7½ H. P. edger feed roll drive, was engineered and installed by Zidell for the same company.

Aborigine Lumber Co., Fort Bragg, Calif., also installed a Zidell 75 hp electric carriage feed drive. This drives an 8,000 pound carriage through a 7-foot, double cut, Monarch Band mill.

★ ★ ★

• Oregon Fibre Products Co., Pilot Rock, Ore., recently took delivery of a Worthington 10 x 11 horizontal, water cooled, heavy duty, air compressor through Portland Machinery Co., the industrial distributors.

Saw Service for Sonoma Area

• Wilder Saw Works, Fresno, is opening a branch at Cloverdale, Calif., according to A. P. Wilder, owner. The new branch will be located on the southern edge of town on Highway 101.

Services will include grinding of all sizes of band and circular saws and knives. Band wheels will be ground at the mill. The company will operate a completely equipped service truck out of the Cloverdale shop.

New equipment to be installed includes two Hanchett band saw grinders, a Hanchett knife grinder, Hanchett automatic round saw gummer, and Hanchett rolls.

A complete line of Simonds saws, knives, and filed will be stocked, according to Wilder.

★ ★ ★

More Resins for Forest Industries in Western Canada

• Announcement was made in December by American-Marietta Co., of Canada Limited of New Westminster, B. C., that plans have been completed for the purchase of property in Edmonton, Alberta. The company intends to erect a synthetic resin plant to serve the plywood and allied industries in Alberta and already has equipment on order for this plant.

American-Marietta Co. of Canada Ltd. is a subsidiary of American-Marietta Co.

Another **ALBANY TRIMMER...**

This Overhead Chain Driven Heavy Duty Trimmer

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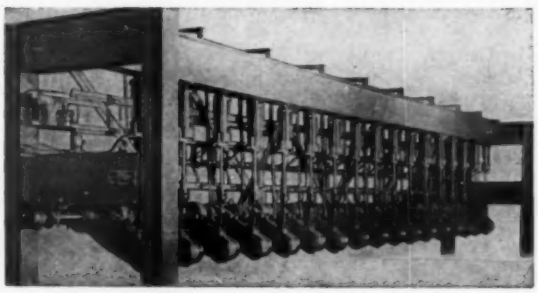
MOLALLA FOREST PRODUCTS CO.
CLOVERDALE, CALIFORNIA



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Pacific Car & Foundry Co., Renton, Wash.

AXLES
Eaton Manufacturing Co., Cleveland, Ohio
Roberts Motor Co., Portland
Timken-Detroit Axle Co., Detroit

BAND WHEEL GRINDING
Walker Saw & Mill Service, Cloverdale, Calif.
Wilder Saw Works, Fresno, Calif.

BARKERS, LOG
Sumner Iron Works, Everett, Wash.
Nicholson Manufacturing Co., Seattle
Soderhamn Machine Mfg. Co., Talladega, Alabama
Hansel Engineering Co., Seattle

BEARINGS
Chain Belt Co., Seattle, Portland, San Francisco
Dodge Manufacturing Co., Mishawaka, Ind., San Francisco, Portland, Seattle
Fafnir Bearing Co., New Britain, Conn.
Link-Belt Co., Seattle, Portland, San Francisco
J. W. Minder Chain & Gear Co., Portland, Los Angeles

BELTING AND PACKING
American Rubber Mfg. Co., Oakland, Calif.; Portland
Gates Rubber Co., Denver
Goodyear Tire & Rubber Co., Akron
J. W. Minder Chain & Gear Co., Portland
Raybestos-Manhattan, Inc., Passaic, N. J.; Portland, Seattle
U. S. Rubber Co., Mechanical Goods Div., New York

BLOWPIPE SYSTEMS
American Sheet Metal Works, Portland
Anderson Blowpipe & Mfg. Co., Seattle
Archer Blower Pipe Mfg. Co., Portland
Rees Blow Pipe Mfg. Co., San Francisco

BLUE PRINTING
Chas. Bruning Co., Inc., Portland

BOILERS AND ACCESSORIES
Gabriel Boiler & Fabrication Co., Portland
Seattle Boiler Works, Seattle

BOILER WATER TREATMENT
Coast Neutralizer Corp., Portland, Ore.

BOOMS—Loading
T. B. Cook Engine Co., Portland, Ore.
Eugene Truck & Machine Co., Eugene, Ore
Young Iron Works, Seattle

BOOM BOATS
L. S. Baier & Associates, Portland
Gunderson Bros. Engineering, Portland
Nichols Boat Works Co., Hood River, Ore.

BRAKE BLOCKS AND LININGS
Champion Friction Co., Eugene, Ore.
World Bestos, Newcastle, Ind.

BULLDOZERS
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Caterpillar Tractor Co., Peoria, Ill.
Howard-Cooper Corp., Portland, Seattle
Pacific Car & Foundry Co., Renton, Wash.

CARRIAGES—Riderless—Automatic
Corley Mfg. Co., Chattanooga, Tenn.
Filer & Stowell Co., Milwaukee, Wis.
Forest Products Machy. Corp., Salem, Ore.
I. W. Johnson Engineering Co., Tacoma
Mater Machine Works, Corvallis, Ore.
Monarch Forge & Machine Wks., Portland, Ore.
Peters Co., Portland, Oregon
Sumner Iron Works, Everett, Wash.

CASTINGS—Iron, Steel and Brass
Electric Steel Foundry, Portland
Link-Belt Co., Seattle, Portland, San Francisco

CHAIN—Steel Roller and Malleable
Chain Belt Company and Baldwin-Duckworth Division, Seattle, Portland, San Francisco
Link-Belt Co., Seattle, Portland, San Francisco
J. W. Minder Chain & Gear Co., Los Angeles, Portland
Moline Malleable Iron Co., St. Charles, Ill.; Tacoma, Wash.; Seattle, Portland, Los Angeles
Jeffrey Mfg. Co., Columbus, Ohio
Northwest Chains and Sprockets, Inc., Seattle, Portland
Peoria Malleable Castings Co., Peoria, Ill.; Portland, Ore.
Portland Chain Mfg. Co., Portland

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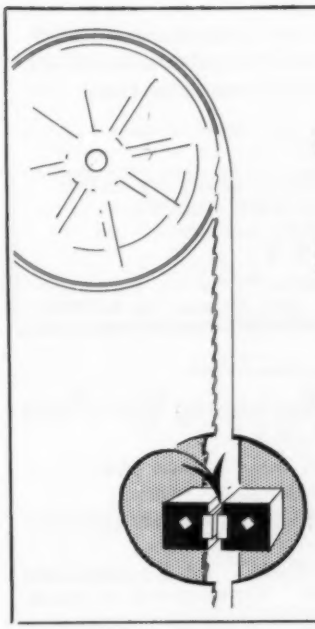

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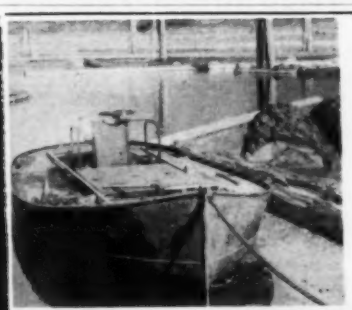

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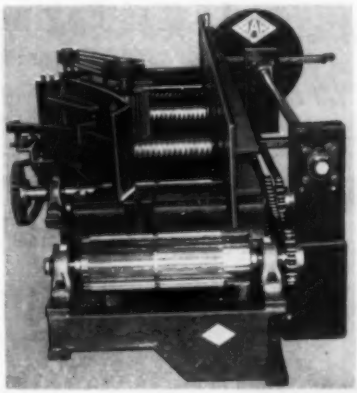

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ALSO FOR NAMES OF SATISFIED USERS

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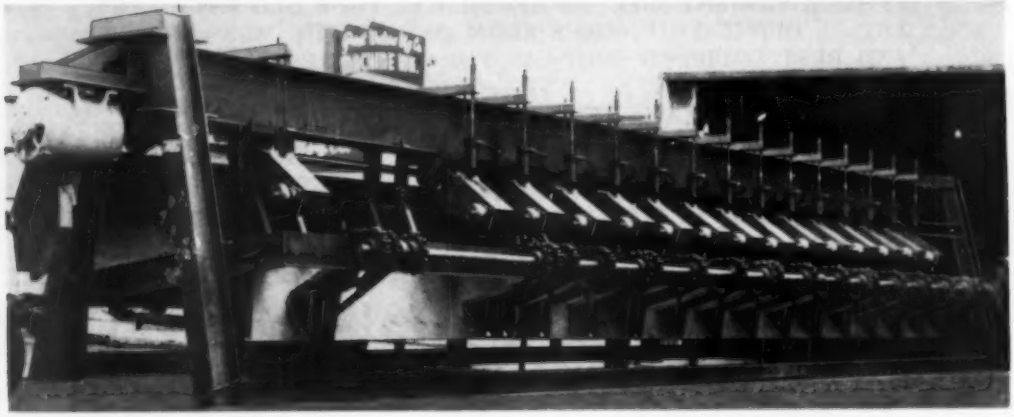

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Portable or Stationary

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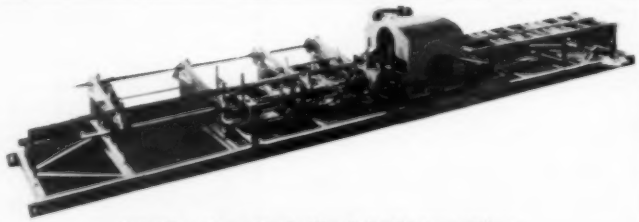

Write for detailed information

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Seattle 5, Washington

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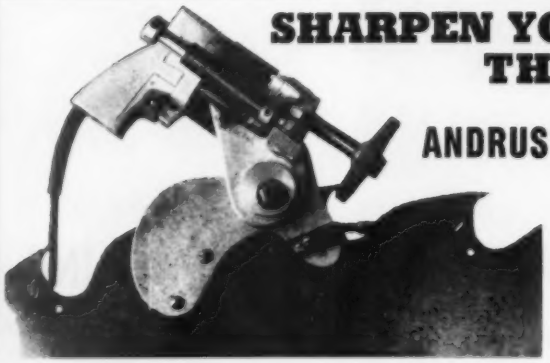

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helps the small and medium size sawmill to make a profit through GREATER PRODUCTION without increased expense.

Uses no more steam than belt or friction feeds. Less expensive to operate. Much faster. Full details in Catalog W. Yours for the asking.

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(Like new; never installed)
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Serving Industry Since 1916
Improved Material Recovery • Reduction of Costs • Increased Productivity
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FOR SAWMILLS SEE
M. A. WARD
CONSTRUCTION CO., INC.
391 E. Third Avenue. • Eugene, Oregon
Phone: 4-5531

SALES AND SALES MANAGEMENT OPPORTUNITY

Well established, reputable manufacturer kiln dried dimension and boards, Southwest Washington wants young, aggressive, experienced lumber salesman with executive ability for order department and leading to sales management. Reply should state age, experience and how soon available. Write TL Box 62, c/o The Lumberman, 71 Columbia St., Seattle 4, Wash.

SAWMILL or FORESTRY ENGINEER AVAILABLE

Immediately — experienced both fields. BSC degree Forestry. Resume' available. Recently resigned as sawmill manager in England. Permanent residence United States. Salary open, any suitable position. Please indicate responsibilities required. Write TL Box 59, c/o THE LUMBERMAN, 71 Columbia St., Seattle 4, Wash.

WANTED

Experienced lumber man to manage a lumber remanufacturing plant with kilns, in the vicinity of Flagstaff, Arizona. State age and experience. Apply in writing to John Henry, P. O. Box 4652, Detroit 34, Michigan.

FOR SALE

Lumber cut up plant with dry kilns and planing mill, located in the northwest on main line of railroad. Spur track, 14 acres land, 36000 sq. ft. buildings. Established 30 years. Equipment in excellent shape. Priced right. Good order file. Owners want to retire. Terms available. Write TL Box 60, c/o THE LUMBERMAN, 71 Columbia St., Seattle 4, Wash.

FOR SALE

Twenty off Highway diesel logging trucks. Trucks are in good condition and can continue on present contract. Also interested in private road hauling contract for ten or more diesel log trucks. Can give best of references. Write TL Box 61, c/o THE LUMBERMAN, 71 Columbia St., Seattle 4, Wash.

WIRE ROPE

Unused surplus, 23/32" diameter, 4x8 construction, galvanized, bright finish, plow steel, mfg. by Amer. Steel & Wire Co. 1800' per reel. Suitable for Guy Cable, Guard Rail, Lashing, etc. Closeout price—5c per ft.

CONSTRUCTION & POWER MACHINERY, INC.
270—23rd St., Brooklyn 15, N. Y. South 8-4900

TRADE

Electric Motors-Controls-Transformer For use in planing and saw mills FOR Tri-Pacer or Cesna 170. Must be 1952 or newer. Give all specs. on plane in first letter. Will trade for cash difference up or down. P. O. Box 5221 State College Station, Raleigh, N. C.

LUMBER BOOKS

A History of Western Trees—by Donald Culross Peattie..... $8.00
Aerial Photographs in Forestry—by Stephen H. Spurr..... 6.00
Applied Silviculture in the U.S.—by Westveld 6.00
Calders' Forest Road Engineering Tables 5.00
Chemical Processing of Wood—by Stamm and Harris..... 12.00
Directory of Western Forest Industries. 14.00
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Forest Management—by Chapman... 6.00
Forest Mensuration—by Bruce & Schumacher 3.50
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Harvesting Timber Crops—by Wackerman 5.00
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Knowing Your Trees—by Collingwood & Brush..... 5.00
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Anywhere!
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Walker Saw & Mill Service
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250 HP 400 rpm G. E. Slip Ring
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"Blue Babe" Pond & Deck Saws
Ahlberg Ball Bearing Pillow Blocks
Jones, Roller Bearing Pillow Blocks
Lovejoy Flexible Couplings

For Sale:
1½ Yard Good Used Marion Shovel D 1300 motor, 60 foot boom, shovel from dipper stick and bucket

Used Gear Reducers and Motors
1—3 HP 68 RPM GE Isotac
1—3 HP 56 RPM Sterling
1—5 HP 45 RPM Foote-Worm
1—5 HP 74 RPM GE Western
2—15 HP 56 RPM Sterling
2—2 HP 1800 RPM Century
1—1 HP 1800 RPM Howell
1—150 HP 720 RPM G.E.
D. C. Electric Carriage Feeds
D. C. Edger & planer, Variable Feed Drives
Used equipment subject prior sale

BUYERS GUIDE and CLASSIFIED SECTION

EQUIPMENT FOR SALE

PLANERS & MOULDERS

1—Yates C1 10" Moulder 6 knife, 6 head, with profiles, rebuilt.
1—Yates 91, 15 x 6 belt drive, rebuilt, ball bearing with 54" Mershon Horizontal Band Resawing Attachment.
2—512 Newman Planers, all ball bearing, double profiles
1—Yates C 88 8" Electric Moulder
1—Yates C 89A Moulder motorized, bottom cyls. top and side heads, belt driven, ball bearing, 12" heads.
1—Woods 404B 30" Planer, ball bearing
1—Newman 10" all electric Moulder, 4 head
1—PB Yates 109 Heavy Duty Moulder, 15 x 6, 6 knife, and 6 head, top and bottom cylds.
1—American 77 Planer 9", 6 knife round heads, double profile.

MISCELLANEOUS

1—281 Band Ripsaw
1—Yates 283 Resaw, 44" tilt rolls, motor V belted
1—54" Horizontal Mershon Resaw, practically new to run in conjunction with matcher for making siding.
1—54" Mershon Standard Vertical Resaw.
1—54" American Resaw
1—American #40 Straight Line Ripsaw
1—Automatic Armstrong No. 18 Circular Cut-Off Saw Sharpener
1—Mattison Straight Line Cut-Off Saw, motorized, No. 244
1—Yates No. 235 Cut-Off Saw
1—Hanchett No. 4 G Automatic Gang Saw Sharpener
1—Yates 213 Glue Jointer, motorized
1—Phoenix Bond Mill 6'
1—Peters Carriage 16' with three 54" opening head blocks.
1—48" Edger, all ball bearing
2—Used Feed Tables, Idaco, & American
1—Used 36" motorized fan
1—New Brooks AC Induction Motor, type DP 60 cycle, 3 phase, 30 HP, 220-440 volts
New General Machinery Company Feed Tables
New General Machinery Company Circular Ripsaw, motorized, ball bearing
New General Machinery Company Double End Trimmer
New General Machinery Company Knife Balancing Scales

CARRIERS

1—Ross Series 91-7956, 52 x 57 package.
1—Ross Series 90-6544, 52 x 40 package.
1—Ross Series 90-6152, 48 x 49 package.
3—Ross Series 90-6556 Carriers

ALL USED MACHINERY SUBJECT TO PRIOR SALE

GENERAL MACHINERY COMPANY
Portland, Oregon Phone: CApitol 8-6573
122 Southwest First Avenue

STAR VALUES

PLANERS—MATCHERS—MOULDERS

Used #500 Newman 6" x 14" ball brg. planer-matcher, 6-knife, and feed table.
Used 77A American Model 5, ball bearing 6" x 15" planer-matcher, 8-knife, and feed table.
Used A-66 Yates-American 6" x 15" electric planer-matcher, 8-knife.
Used #94 Berlin, 6" x 15" planer-matcher 6-knife.
Used #134M Woods 4" x 10" 5-head electric moulder.
New #512 Newman 8" x 16" planer-matcher, 8-knife, ball and roller bearing.
M-48, 6" x 16" New Newman planer-matcher, 4-knife ball and roller bearing.
New #8-B Newman 4" x 14" planer, matcher and moulder, ball bearing.

SAW MILL EQUIPMENT

Used Model 75 L-M 7½ HP Pond and Deck Saw, 7' bar.
New 6" x 54" Schurman stub edger.
New 4½" x 30" Miner 3-saw gang edger.
New No. 35 Diamond hog.

BAND RESAWS—BAND RIP SAWS

Used 54" Mershon vertical band resaw, left hand.
Used 60" Fay & Egan vertical band resaw, left hand.
New K-52" Turner vertical single band resaw, left hand.
Used 66" Mershon vertical band resaw, right hand.

WOODWORKING MACHINES

Used #32 Whitney 6" x 30" single surfacer, ball brg., DMD.
Used #385 Greenlee vertical gang borer.
Used American 40" band saw for shakes.
Used #500 Newman 24" x 8" single surfacer, 5 HP, ball bearing.
Used #14 & #36 Irvington 5 HP swing saws, roller bearing.
New S-830 Newman 30" x 8" single surfacer, 7½ HP.
Used #431 Yates, 43" Endless bed 3-drum sander, spiral drums.

COMPRESSORS, STATIONARY

Rebuilt Model ER-1 Ingersoll-Rand 9" x 8" water-cooled, 110 CFM.
Unused Smith water-cooled, bare, 110 CFM, special price.
New M-40 Worthington air-cooled 158 CFM.

FILING ROOM EQUIPMENT

Used Hanchett 6" to 14" bandsaw grinder.
Used Dependable sidehead grinder.
New G-71 Newman sidehead grinder.
New G-16 Newman sidehead grinder.
New G-232 Newman hydraulic knife grinder.

BAND AND CIRCULAR SAW MILLS

Used #2 American saw mill, ball brg.
Used #4 Star saw mill, ball bearing.
New American Porta-mill.

STAR MACHINERY COMPANY

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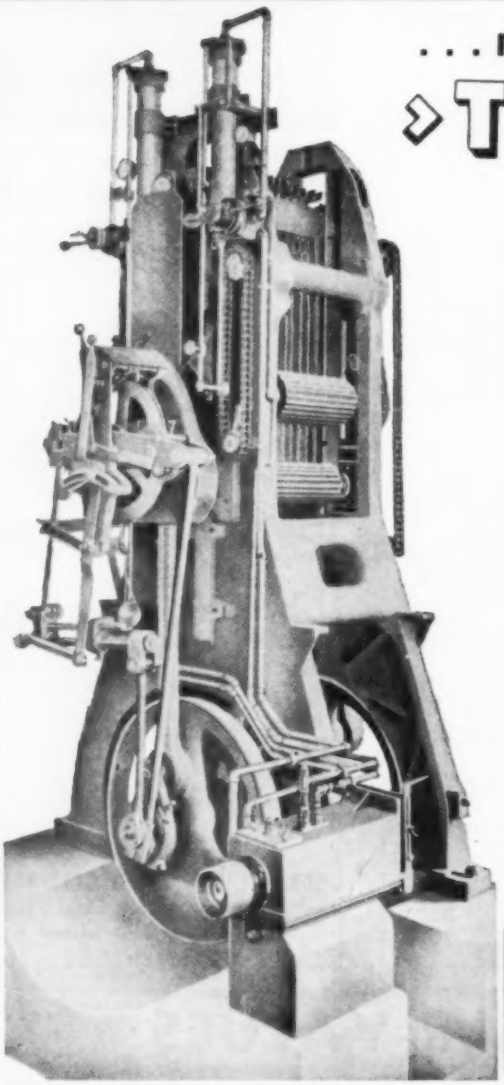
Riverside 6121

SEATTLE
241 Lander Street
ELliott 0760, Ext. 19

PORTLAND
801 S.W. Front Ave.
CApitol 8-7395



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TIROL maximum capacity SASH GANG SAW

- Fully automatic
- Oil Hydraulic
- Steel moving parts
- No Vibration . . . only small foundation required

This maximum capacity sash gang sawmill is a most up-to-date highly developed model. A machine of the most durable construction and highest quality of material and design, it is manufactured in Germany and now offered to the American lumberman at prices that cannot be duplicated by American manufacturers. This sawmill is designed to be the fastest and most accurate method of sawing logs into lumber of any dimension. Can be operated efficiently with a minimum of manpower and horsepower, and a great reduction in sawdust and waste. 22″ - 28″ and 30″ opening!

See this gang saw on display at foot of S.W. Sheridan Street. Easy terms. 10% down—balance in easy monthly payments. Saws in stock in our warehouse.

Write for catalog and prices!

distributed in Northwestern States by

S&W SCHNITZER & WOLF MACHINERY COMPANY

900 S. W. FIRST AVENUE - PORTLAND 4, OREGON

CA 8-7501

Dry Kiln and Gang Mill Added

• Hodge Bros. Lumber Co., Grand Ronde, Ore. has installed a rapid-drying Dryalator kiln shown (left) purchased from Portland Machinery Co., western distributor. This kiln is reportedly suitable for seasoning specialty lumber items or for handling general output of smaller mills. It uses higher temperatures and greater air velocities than in conventional kiln schedules.

Hodge Bros. is also completing installation of a 28x28-in. Marathon gang mill, the first of these new mills to operate in the U. S. Until recently Marathon gangs, manufactured by Marathon Mach. Co., Vancouver, B. C. were available in just two sizes—13x20 and 20x20. This original unit was purchased through Portland Machinery Co., national distributor of Marathon gangs.

FOR SALE

1—50" Norman chipper complete with vee belt drive, 200 HP—600/30/60—2200 volt G.E. motor including base and starting equipment. Available late January '56. Perfect condition, 18 months old. Also, 1 Hanchett Knife Grinder Model DN Side 40" complete with special fixture for grinding 4 knives per set up, grinding wheel and wheel dresser. Call, write or wire, Purchasing Dept.

WILLAMETTE VALLEY LUMBER CO. • Dallas, Oregon

ALL ELECTRIC SAWMILL FOR SALE

At Mill see Herb. Robinson
Tacoma BR 1336

In Aberdeen see Harry Goldstein

Sale of two Mills

TACOMA LUMBER MILLS, INC.

(Formerly Mountain Lbr. Co.)

Located 919 East F Street, Tacoma

By

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Large Mill.....70 M Ft. Capacity
Small Mill.....20 M Ft. Capacity

LARGE MILL

Log Stop and Loader, 18 x 24 cyl.
Simonson Turner, 12 x 96 cyl.
Skid Lift, 10 x 24 cyl.
Carriage, 60" rack and pinion
Feed engine, P & H 14 x 18
Band Mill, 9' Clark
Band Mill Drive, 250 HP, 600 RPM
Edger, 10 x 72, 200 HP 1200 RPM
Trimmer, 42' Summer
Resaw 84" Mershon, 150 HP, 900 RPM
Planer 6 x 15 Stetson Ross #170
Compressor I.R. 75 HP Drive, horizontal 12 x 10 386 CFD with 75 HP motor
Hog, #65 Diamond ball bearing with V-belt drive and 150 HP motor, almost new unit
Complete Filing room equipment

SMALL MILL

Carriage, 36" Corinth
Flipper with air cylinder
Husk, bottom arbor only and feed
3 sets roll cases
Sorting table #78 and #130 chain

ROLL CASES

10—12 x 36 x 2 15/16" C.I. rolls oiltight miter gear boxes
11—10 x 36 x 2 3/16" C.I. rolls oiltight miter gear boxes
12—10 x 30 x 2 7/16" C.I. rolls open miter gear driven
9—8 x 74 x 1 15/16" pipe rolls driven with #78 sprockets mounted on 12" I Beam
4—10 x 30 x 1 15/16" pipe rolls jump roll case mounted on steel frame, roller chain driven.
20—8 x 30 x 1 15/16" pipe rolls driven with 1¼" P roller chain
14—10 x 30 x 2 3/16" pipe rolls oiltight gear boxes
13—10 x 30 x 1 15/16" pipe rolls driven by 1¼" P roller chain
17—14 x 42 x 2 15/16" c.i. rolls oiltight gear boxes
9—4 x 30 x 1 7/16" pipe rolls driven by 5/8" P roller chain
17—4 x 14 x 1" pipe rolls driven by 5/8" P roller chain
17—8 x 24 x 1 15/16" pipe rolls driven by 1¼" P roller chain

FOR SALE
MERRY GO ROUND

Filer & Stowell type design, 1951. All steel package unit with complete sets of gear motors and all air lifts on transfer rolls, chains and drives. 24" infeed rolls, 36" outfeed. Infeed & outfeed each 44' long, 98' overall. Can handle 75,000 ft per day for remanufacturing of cants. Is being used for sawing Clears into vertical grain Fir, Spruce, Cedar, etc. for minesweeper program. Excellent for making siding strips in VG for Redwood or Cedar mill, also mfg. items as ladder stock, pole stock and spar & mast grades, etc. Can be seen in operation. Write for blueprint. Price, $18,750.00 net, f.o.b. cars Chicago, without resaw.

HUSS LUMBER COMPANY
1350 W. Fullerton Ave. Chicago 14, Illinois

FOR SALE

1—Covel Hanchett Bandsaw Grinder #407—up to 10" Saws. Equipped with 2 motors.
1—Practically new Stretcher roll—up to 8" Saws. Equipped with motor.
1—48" x 8" x 4" Leveling Block.
1—Bridgport 84" Knife Grinder. Equipped with 7½ H.P. motor.
1—Practically new Acme Gummer. Equipped with motor.
1—Covel Hanchett Automatic Circular Saw Grinder #928. Equipped with motor.
1—New Circular Saw Anvil.
1—#115 Band Saw Grinder Converted to a Gang Saw Grinder.

Wilder Saw Works

2520 VENTURA AVE., FRESNO, CALIF.
Day—2-1784 Night—7-6545

CLOSING OUT SAWMILL EQUIPMENT AT PROUTY LUMBER AND BOX COMPANY, WARRENTON, OREGON—AT REAL BARGAIN PRICES!

HEAD BAND MILL

1—10 ft. R. H. Allis B. roller bearing
Top wheels 15" face, bottom wheel 12" face
Electric guide 3 hp final 45 lift Electric strain 3 HP final 45
New top wheel sgl. cut
Bevel friction drive for outfeed roll on band mill 10"x8" paper bevel friction 35x8 iron bevel friction
1 extra old top wheel 10 ft. x 15"—5" rim
Shaft 5⅝" dia. Includes three saws.....$3,000.00

HEAD CARRIAGE

4—72" screw head blocks (Allis) 4" pitch Screws, taper knees, cant hook dogs
#4 Trout Set rope drive
3-7/16" set shaft grease tight boxes
128 ft. V track 80# T rail on plates ½x8"
240 ft. track 80# T rail on plates ½x8"
8-trucks 3 wheel 1 V, 2 flat, 15" dia. 3-7/16" axles off-sets on carriage
1 trailer, 4 trucks 13" wheels, 1 V, 2 flat, 3-3/16" axles and couplers and off-set less motor for set works $2,000.00

HEAD CARRIAGE FEED

1 Sumner 13x18" camel back
10x10 spur pinion 30x10 spur gear
6—7/16" shaft 4 8"x24" flanged drum
2—72" carriage rope sheaves shaft and boxes 1¼" $1,500.00

TRIMMERS

1 Sumner 22 saw overhead—capacity 12"
24 feed in chains #78—5 ft.
11 feed in chains #78—10 ft.
36" saws—belt drive—with belts
babbitt bearings
for direct connection through flexible couplings

18—8"x54 pipe rolls R. C. drive dbl. sprockets back of trimmer $4,000.00
2—Sumner 24 ft. air trimmers
saws spaced 0-6-8-10-12-14-16-18-20-22-24
with feed chains #78—10 ft. centers
36" saws capacity to 12"
with saws, belts and chain $2,250.00

FILING ROOM

1—40x14x4 leveling block 800# 20c..... 160.00
2—12x12x5 hand saw anvils ea. 200# 30c..ea. 60.00

MISCELLANEOUS

1—Stencil machine 75.00

RESAW DEPARTMENT

1—Mershon 7 ft. LH machine
L.H. Jenkins quick set
overhead drive, babbitt bearings
9" face—top wheel ¾" thick
without infeed rolls, less drive motor
4 saws $3,500.00
1—Yates 54" left hand, Babbitt bearings 6½" face, line bar completely rebuilt.....$5,000.00

CARRIERS AND LIFT TRUCKS

		YEAR	
1	Utility #592	1939	$ 750.00
1	Utility #571	1938	750.00
1	Hyster #1204	1944	1,500.00
1	Hyster #78077	1952	2,500.00

DRY KILNS

2—dbl. track Moore kilns $7,500.00

SAWMILL MACHINERY

1—#4 Trout Set Works, less drive
About 300 ft. new 1¼x10 E. S. co. log haul chain 9.00 ..... 2,700.00

MISCELLANEOUS

25 new C. S. log haulchain (new) 40.00 ea. $1,000.00
1 set (4) Allis screw head blocks
72" plain knees cant hook dogs
2—spud dogs, gears and set shaft rebuilt.... 750.00
1—Cummings Diesel power unit 200 HP.... 2,000.00
1—Cummings Diesel power unit 150HP..... 1,500.00

POWER HOUSE

1—Willamette 72x18 150 HP 150# A.S.M.E. code-built 1923 complete, less stack.....$1,500.00
2—P.S.M.D. 72x18 150 HP ea. 150# A.S.M.E. built 1941 $2,500.00 each 5,000.00
1—Shipping Board boiler (water tube) 275 HP 4C9—3" tubes 6 ft. 5" to 7 ft. 9" long stack 4 2"x104 ft. 42"x14 ft. drum—wt. 55,000# 1,000.00
1—B&W Water tube, 5 ID HP, 216—4"x18 ft. tubes
2—4 2" drums 24 ft. long 200# A.S.M.E. built 1908 stack 60" x 100 ft. 4,000.00

PUMPS

2—boiler feed pumps, 3" x 1½"—motor drive 3550 speed 440 ft. head—250 gals. 50 HP Allis 3600 motor $1,000.00 each 2,000.00
1—General Electric 750 KW 30% PF, 480 volt, 1800 RPM, 3 phase 60 cy. mixed pressure steam turbine generating unit designed to operate on 165 lbs. gauge and 15 lbs. absolute at the throttles. Steam turbine SER. No. 5099 Form "C" Generator Serial No 203 085 .....$5,000.00
1—Barometric condenser with intake and exhaust piping.
1—General Electric 500 Kw. 80% P.F., 3600 RPM, 480 volts, 3 phase, 60 cy. condensing steam turbine generating unit designed to operate on 150 lbs. gauge at the throttle Steam turbine Serial No. 7305. Form "C". Generator Ser. No. 195 900. Motors: 5 HP to 50 HP, 440 Volt.....$4,000.00

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SAWMILL MACHINERY SPECIALISTS

Northern California's Most Complete
SAW SERVICE — BAND & CIRCULAR — NEWLY ADDED COMPLETE MILLING MACHINE FOR MILLING-OUT INSERTED TOOTH SAWS

★ **BANTA SAW WORKS**
Redding, Calif. Phone 532

If You're Skating on thin Ice!

Wire — Phone — Write

BADER & CARROLL

FOR NEW AND USED

Sawmill and Planing Mill Equipment

HEAD RIGS

2 Filer & Stowell 9-ft. band mills
1 Allis-Chalmers 9-ft. right hand band mill
1 Allis-Chalmers 10-ft. right hand band mill

CARRIAGES

SCREW BLOCK

1 3 or 4 block, 48" opening
1 3 or 4 block, 72" opening
1 3 or 4 block, 78" opening

ROLLER CHAIN, BLOCK

1 Monarch 4-block 66", electric setworks, air dogs
1 Monarch 3-block 60" opening Andrus electric setworks
1 Mater 3-block steel frame, 60" opening, electric setworks

RACK AND PINION

1 Filer & Stowell 3-block, 44" opening
2 3-block, 48" opening

SETWORKS

1Allis Trout No. 4, completely rebuilt
1 Andrus, hand operated, rebuilt

EDGERS

1 Portland Iron Works, 10x48, 5-saw, ball bearing, stub lever type
2 Tower, 8x28, table type, 4-saw, new
1 Wieland, 8x72, table type 7-saw
1 Portland Iron Works, 4x48, stub lever type, 4-saw
1 Sumner, 10x.6, stub lever type, 5-saw
1 Allis-Chalmers, 10x60, stub lever type, 5-saw
1 Sumner stub 8x60, 5-saw, with or without 150-hp 1800 direct motor drive
1 Allis 12x72 with 400 HP motor

SPECIALS NOW IN STOCK

PLANING MILL EQUIPMENT

MOULDERS

1 Levi Huston 4x9 4-head, babbit brg.
1 Woods No. 702B 6x15 5-head, babbitt bearing

PLANERS

1 Yates No. A4 6x30 6-knife, round heads
1 Woods No. 404 6x15 8-knife, with top and bottom profiles
1 Woods No. 10 12x30 4-knife, square heads
1 Berlin No. 41 14x30 4-knife, square heads
1 Stetson-Ross No. 4A4 24x30 4-knife, round head, motorized side heads

POWERHOUSE EQUIPMENT

1 only Kidwell 750-hp, 4-drum water tube boiler. 200-lb. Ore. pressure.
1 only Westinghouse 1500-kva 2400-volt steam turbine.

HANDLING EQUIPMENT

1 Star hammerhead gantry crane, 70-ft. boom, 4-ton lumber handling type.
2 Hyster carriers, wide pkg.
1 Gerlinger carrier, 42" pkg.

STILL AVAILABLE

Bargains in Sawmill and Planing MILL MACHINERY

At Long-Bell East Sawmill.
At Corvalis Lumber Co. Mill.
At our warehouse in Portland.

SURFACERS

1 Berlin No. 177 Double Surfacer, 12"x30" 4 knife sq. head. Motors, belt drive.
1 Whitney, motorized, ball bearing, 6 knife round head.
1 American No. 444, 3 knife round head, motorized.

Complete Planing Mill and Sawmill of the Monroe Lbr. Co. Eugene, Oregon

Haul-up chains
Grinding room equipment
Mereen-Johnson 54" ball-bearing resaw with Sawyer line bar
1. W. Johnson automatic trimmer, complete blower system
Circular Sawmill—80M capacity
2 Refuse Burners
3 Gerlinger Carriers
1 Gerlinger Lift Truck

Also available at Walters Bushong Plant, Eugene:
1 Berlin No. 10 10x20 planer, belt drive, 3 pr. sideheads, with or without motor
1 American Clement 54" L. H. Band Resaw, with or without motor
1 Ross No. 70 54" Carrier
Asstd. motors and reducers

All above items at cleanup prices

YOUR ARE INVITED

to inspect NEW DESIGN McDonough 54" band resaw and CARROLL circular resaw, now on hand at our store, 122 S.W. First Avenue.

Wire — Phone — Write

BADER & CARROLL

122 S.W. FIRST AVENUE
PORTLAND 4, OREGON

Phone CA 2-1013
or CA-8501

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50 Standard Gauge Railroad Log Cars or Suitable for Conversion to Log Cars. 50 Ton Capacity. Prefer Steel Frame and AB Brakes.

SOUTHWEST LUMBER MILLS, INC.
Purchasing Department
P. O. Box 908 Phoenix, Arizona

#17A STETSON-ROSS MATCHER

6" x 20", 10 knife motorized, ball bearing. One set of heads, side heads for 2" square cut. All Controls and switch panel. All dust hoods. Woods steel frame feed table. In excellent condition. Reasonably priced.

D-7 CATERPILLAR TRACTOR

Equipped with bulldozer, front power control unit and towing winch.

WILLAMETTE BUILDERS SUPPLY CO.
AUMSVILLE, OREGON
TELEPHONE 304 • TELETYPE 79

LOG BARKER
FOR SALE

One Hansel 60" Ring Barker

Contact Purchasing Department

Weyerhaeuser Timber Company

Snoqualmie Falls Branch
Snoqualmie Falls, Washington

For 55 Years Headquarters for Sawmill Machinery

EDGERS

Used 4 x 36 Newport BB Table Edger
Used 10 x 60 Allis LH roller brg. Stub Edger
Used 4 x 42 BB Newport Stub Edger
Used 6 x 44 table edger, double roll, BB
Used 6 x 48 Fabricated Stub Edger
Used Burton 6 x 42 4 gang Stub Edger
Used 12 x 84 Allis Edger with gang collars
Used Heans 6 x 30 Stub Edger

HOGS & CHIPPERS

New Diamond #25 Hog
New Diamond #135 Hog
New Diamond #145 Hog
New Diamond #145 Chipmill
Used #15 Diamond Hog
Used #40 Diamond Hog
Used #45 Diamond Hog
Used #60 Diamond Hog
Used 36" Hansel Chipper
Used 60" Hansel-Dunbar Disc Chipper, anti-friction brg.
Used Williams Hammer Hog 20 x 44 opening

PLANERS—MOULDERS—SURFACERS

Used S. A. Woods 404 Cl Elec. 8-knife planer
4" x 4" Eaglesfield electric moulder-frequency changer
Stetson Ross #4 16 x 50 Timber Sizer
Used Berlin #95 6 x 30 6-knife matcher with ripper
Newman #99 6 x 15 6-knife planer-matcher
Used Berlin #94X 6 x 15 6-knife planer-matcher
Used Frank 5 x 24 planer
Used Tilting Lumber Hoist, floor chains
New 4 x 13 BB Marathon planer-matcher

RESAWS & RIP SAWS

Used 54" McDonough BB Resaw
Used 54" Mershon, anti-friction brg, tilt rolls
Used 60" Mershon, anti-friction brg.
Used J. A. Fay & Egan 42" band rip saw
Used 42" Cordesman Band Resaw
American #2 self-feed circular rip saw
Used 40" #4 band scroll resaw
Used Mershon 84" Resaw, sawmill type, quick set

FEED WORKS

New 5 x 6 SpeeDee Twin Feed
16 x 18 Allis Steam Twin feed self-contained
American 6 x 12 dbl. cpl. single drum feed

LOG AND CANT GANGS

Marathon #200 Gang saw, 13 x 20, for Cants
Marathon #120 Gang saw, for Logs or cants
Used 8 x 32 Wickes Cant Gang
Used 20 x 20 Gang
Linck Gang saw for logs or cants, 22x22—In Stock
Linck Gang saw for logs or cants, 28x28—In Stock
Used 16 x 36 Sunbo Cant Gang

ENGINES & BOILERS

Caterpillar Diesel Engine D8800
Caterpillar Diesel Engine D13000
New 20 HP Diesel Engine FM
11 x 12 Ames Center Crank 48 x 12 Pulley
62" x 20' 160 HP Code Boiler 195#
54" x 14' HRT ideal for dry kiln
72" x 18' 160 HP Code Boiler 150#

KNIFE GRINDERS

Used S. A. Woods motorized sidehead grinder
Used Buffalo 28" cup wheel knife grinder
Used 36" Fay & Egan #253 automatic knife grinder
Used American 30" knife grinder
Used American 32" straight wheel knife grinder
Used Covel GK 34" late type knife grinder
Used BT&B 39" Automatic straight wheel hog knife grinder
Used S. A. Woods sidehead and profile jointer stand
New Dependable #99A5 36" motor drive, automatic knife grinder
New Dependable #101A sidehead Grinder
New Defiance 38" motorized automatic knife grinder

MILL EQUIPMENT

New Wheland 1 man 2-saw Trimmer, electronically controlled
Used 2-arm Log Stop & Loader, 36" arm, 12x16 cyl.
Used 3-arm Log Stop & Loader, 42" arm, 16x20 cyl.
Used 20' Portland Iron Log Turner
4—Used Gerlinger Carriers 42"
New Willamette Iron Works Swede—rubber rolls
Steel Deck with Flippers
Used Beile Log Turner
Used 10" and 12" full oscillating Nigger
Used 7" and 9" Hill Nigger
Used Tower

MOTORS

Used 200 HP 900 RPM BB FM
Used 150 HP 720 RPM GE
New 150 HP 900 RPM Allis-Chalmers BB
New 150 HP 1200 RPM BB Allis-Chalmers
New 100 HP 1200 RPM BB Allis-Chalmers
Used 75 HP 1200 RPM BB Ge
Used 25 KVA Westinghouse w/controls
New 7.0 Watt gas driven Generator
Sawmill type gearmotors and reducers 3 to 10 HP
Large stock of used motors, large and small

HEAD RIGS AND CARRIAGES

Used American #3 Sawmill
New Wheland #36 Portable Mill
New Wheland 7' Band Mill RH, takes 14" blades
Corinth Hydraulic Sawmill, ridereless carriage
Portland Iron Works 60" opening headblocks
#4 Trout Set Works for screw block
9' Union Band Mill, roller bearing, RH
6' Yates Band Mill, all cast, LH
54" Berlin Pony Band Mill, 7" blades
Sumner Power Set Works for screw block
Sumner Iron Works 3-block R & P 36" opening, tapers
54" opening screw type headblocks
3 Sumner 72" opening headblocks

COMPRESSORS

50 cu ft Used Worthington air cooled
65 cu ft Used Worthington air cooled
65 cu ft New Worthington air cooled
122 cu ft Used Worthington air cooled
160 cu ft Used Ingersol Rand Portable
230 cu ft Ingersoll Rand Portable
311 cu ft Used Ingersoll Rand water cooled
500 cu ft Used Worthington air cooled
524 cu ft Used Ingersoll Rand water cooled

FILING ROOM EQUIPMENT

New Armstrong #4 Stretcher Roll
New Armstrong #4 Band Saw Grinder
New Marathon Gang Saw Grinder
New Armstrong #54 Circular Saw Gummer
New Vollmer Gang Saw Grinder
Used Armstrong #6 Band Saw Grinder
Used Covel #140 automatic Band Saw Grinder
Used Covel #217 RH Band Saw Grinder
Used Covel #90 LH Band Saw Grinder
Used Covel #83 24" Gang Saw Grinder
Used Covel #150 RH Band Saw Grinder
Used Hanchett #724 36" Automatic Circular Saw Grinder
Used Hanchett #948 Circular Saw Grinder
Used Hanchett #250 LH Band Saw Grinder, motorized
New and Used Levelling Blocks

NEW AND USED PUMPS

Underwriter approved Firepumps—many sizes
Log Wash units complete with Spray Ring
New 150" Boiler Feed Turbine Pump
New 3x2x3 Worthington Duplex Boiler Feed
Used 12x6x12 Advance Duplex Boiler Feed
Used 6x4x6 Worthington Duplex Boiler Feed
Used Worthington 4" Centrifugal—1000 GPM

HOISTS AND CRANES

New 10 ton Schurman dbl drum hoist
New 5 ton General Utility Beebe Bros. hoist
New Budget Hoists in stock
Used American dbl drum 24x24 40 HP
Used Skagit single drum for P-8 engine

SHOP TOOLS

20x12 Shoemaker QC lathe
Used Outer Pipe & Bolt Threader
3' Mueller Radial Drill
4' American Geared Head Radial Drill
8x16 Racine Hydraulic hack saw
#3 Kempsmith Geared Maximiller

MISCELLANEOUS

American Columbia 48" oscillating 3 drum sander
Used Hesse-Ersted 6 HP motorized saw arbor
Used Irvington 60" arm swing saw
Berlin 70" 3 drum sander
Used Morgan Box board matcher
Mereen Johnson box board squeezer
Mereen Johnson 20' precision trim & printer
36" Crescent ball bearing band saw

Agents for LUMBER DRYALATORS, INC.—High Speed-Dry Kilns. DIAMOND IRON WORKS—Fuel Hogs and Chipmills. SCHURMAN MACHINE WORKS—Edgers, Hoists. BERRY MFG.—Hydraulic Carriage Drives. WORTHINGTON CORPORATION—Band Mills, Circular Sawmills, Edgers, Trimmers, Carriages. IRVINGTON—Trim Saws. ARMSTRONG MFG.—Filing Room Equipment. DEPENDABLE—Knife Grinding Equipment and Moulders. ALLIS-CHALMERS MFG. Motors, Controls, Drives. COMET—Radial Arm Saws. DAVIS & WELLS—Woodworking Machinery. BEGE Hydraulic Log Turners. P & H—Hoists. BINKS MFG.—Spray Equipment. MARATHON AND LINCK GANG MILLS.

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"When You Think of Machinery, Think of Portland Machinery"

208 S. W. First Avenue Portland 4, Oregon Phone CApitol 8-9633

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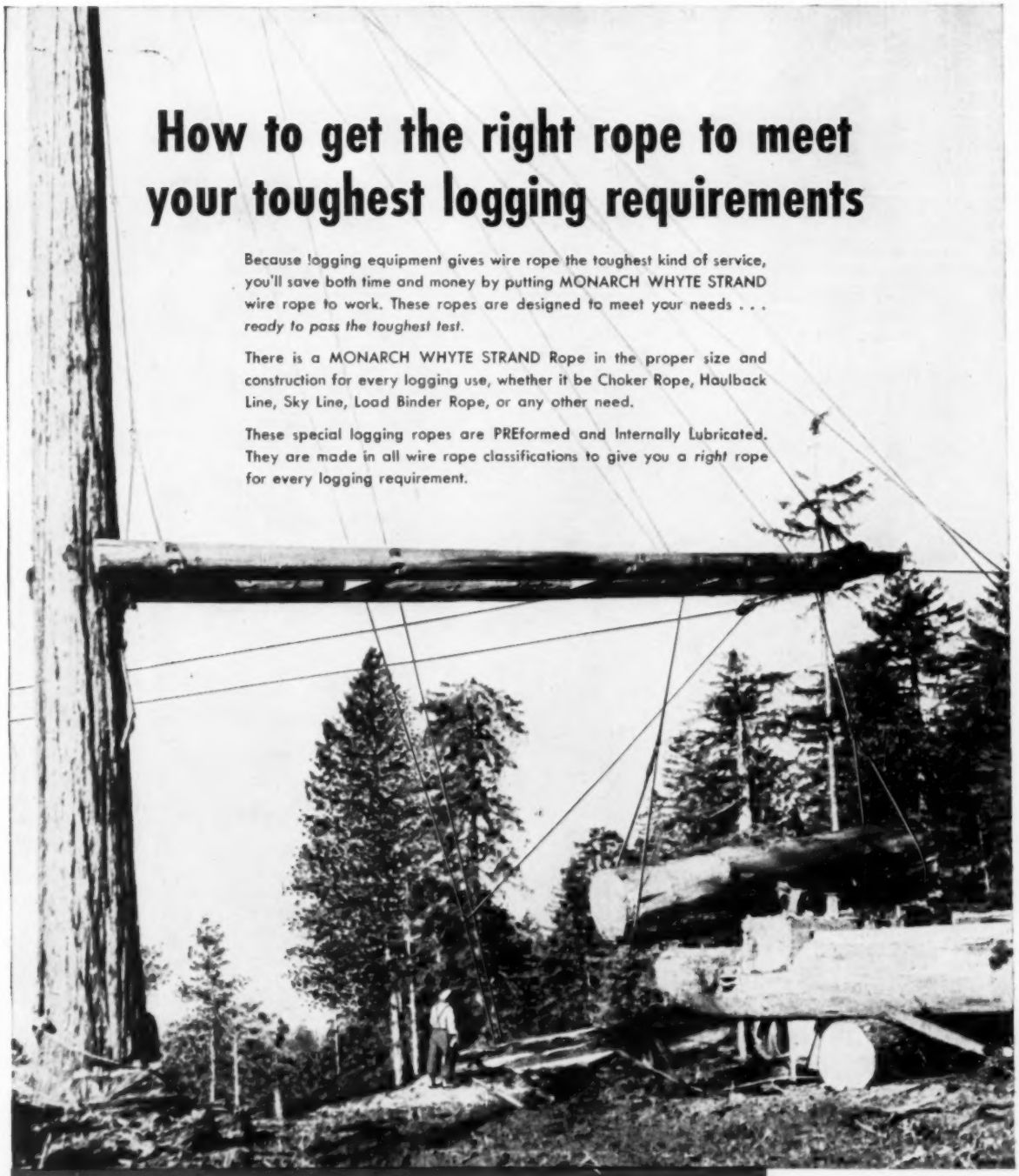
How to get the right rope to meet your toughest logging requirements

Because logging equipment gives wire rope the toughest kind of service, you'll save both time and money by putting MONARCH WHYTE STRAND wire rope to work. These ropes are designed to meet your needs . . . *ready to pass the toughest test.*

There is a MONARCH WHYTE STRAND Rope in the proper size and construction for every logging use, whether it be Choker Rope, Haulback Line, Sky Line, Load Binder Rope, or any other need.

These special logging ropes are PREformed and Internally Lubricated. They are made in all wire rope classifications to give you a *right* rope for every logging requirement.



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MACWHYTE COMPANY, 2954 Fourteenth Avenue, Kenosha, Wisconsin

Manufacturers of: Internally Lubricated PREformed Wire Rope, Braided Wire Rope Slings, Aircraft Cables and Assemblies, Monel Metal and Stainless Steel Wire Rope Assemblies.

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New Logging Rope Recommendations Bulletin Number 5434 gives complete description, illustrations, and use. Ask your distributor or Macwhyte office for your copy.

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. . . says C. V. "Vic" Ruelle, president of Ruelle, Inc. "Our Kenworths keep going—on and off the highway—with virtually no down time." As hauling contractor for Willits Redwood Products of Willits, California, Mr. Ruelle is faced with an operation including forest to mill to market hauls in the woods and on the highway. "Kenworth's versatile 825's give us the best possible combination of weight and pay load for this multiple job. With them we haul a legal highway load of 12,000 to 14,000 feet of green redwood, or 25,000 feet of kiln-dried redwood lumber." Featuring Kenworth's Gravity Spring torsion rod suspension—lightest dual drive bogey in the 42,000 lb. G.V.W. class—the 825's in the Ruelle fleet are engineered throughout to bring truck weight down and pay load up. An important reason why . . .

. . . There's more WORTH in KENWORTH

KENWORTH

TRUCKS ★ BUSES

FACTORY AND HOME OFFICE: SEATTLE, U. S. A., DISTRIBUTORS IN THE UNITED STATES AND MOST FOREIGN COUNTRIES